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ORIGINAL ESSAYS.

A Dissertation on TYPHUS MITIOR, or low Nervous Fever: read before the Medical Society of the State of New-York. By Dr. MOSES WILLARD, of Albany, Honorary Member of the State Medical Society, and Fellow of the College of Physicians of the State of New-York.

(Continued from p. 115, and concluded.)

INDICATIONS of cure then, agreeable to the preceding doctrine, will be, in the first place, to evacuate from the primæ viæ all accumulation of extraneous, excrementitious, and poisonous matter.

The second, to restore the action of the glandular and lymphatic systems, and correct the septic acid in the primæ viæ; in doing which, we shall obviate the tendency to dissolution, by the glands being enabled to separate from the blood, and throw off the excrementitious matter, and restore the vital, and equal distribution of the animating principle.

In the third place, to obviate the effects of debility.

In answering the first indication, we shall in some measure anticipate the second; for by making the necessary evacuations from the primæ viæ, we shall lay the foundation for the relief of the glandular system, and especially by bringing the liver into action; which, as before observed, takes the lead, and governs the rest of the glandular and lymphatic systems.

For this purpose I have never found any medicine to answer my expectations equal to the calomel and cerate of

antimony, which I combine, two parts of the calomel to one of the antimony. Of this compound, I give about 30 grains to an adult at a dose, working off the medicine by the patient drinking freely of very thin water gruel.

I would remark in the first place, that it is a matter of very great importance, that the doses of medicine should be proportioned to the exigencies of the case. If this is not attended to, much time may be lost, and that time in all probability in many cases which may determine the fate of the patient. In fact, every physician ought to be like a wise master-builder, to know not only the materials he will want, but how to use every one of them to the best advantage, without the loss of time.

If my experience and observations do not deceive me, the patient will require a larger dose, just in proportion to the torpor, or insensibility of the system; and when this exists in a greater degree, there will appear a greater degree of debility. Hence it will follow, if the preceding observations and arguments be just, and if our elucidations have been clear, that the general system is loaded with a great quantity of excrementitious matter, and of course that the nervous system is in an oppressed state. If, therefore, the power applied be not sufficient to unload the general system, and of course to free the nerves from the state of oppression, our practice will be of no avail, and we shall have to lament that we have lost the all-important period when we might have saved our patient.

I am very sensible that a very cautious and temporising mode of practice may serve as a mantle of security to the ignorant and selfish man, who wishes to obtain the character of a very safe and prudent physician.

But permit me in the language of a celebrated physician to say, that in such a situation as this, "the conduct of the Divine Author of our religion should be our example; and if the conscientious, or, as he is commonly called, the bold physician, who loses sight of his own interest and the means of preserving his reputation, and by the use of even a doubtful remedy, is fortunate enough to turn the scale in favour of life, he does an act imitating Divine benevolence; and it will prove a greater consolation to him than the praise of all finite creatures."*

* Dr. Rush.

In the second place, I find that these medicines are rendered much more mild, by being combined together, than when given separately ; and that their operation is perfectly safe, and mild as any thing can be which will have the desired effect, and answer the indication.

I would remark in the third place, that I am very sensible, that some have thought this a large dose, (as published in my observations on the remitting fever of 1809.) But I can assure such persons, that after fifteen years experience of these medicines, I find this quantity generally necessary to produce the desired effect ; and oftentimes I have been obliged to give much more before the intention could be answered.

But to return to our subject. If this dose should have the desired effect, it throws off a considerable quantity of crude matter from the stomach, and discharges a large portion of fetid, poisonous, and extraneous matter from the bowels ; and sometimes there will be evidence of the discharge of yellow bile : and where this is the case, it is a very favourable circumstance, as the disease will, in general, easily yield afterwards to a proper mode of treatment, and therefore afford a favourable prognostic.

In answering our first indication, it is a matter of very great consequence, that we be not deceived, but that by this or some other medicine, we fully obtain the desired object.

I sometimes give the rheum and sal. tart. in the act of effervescence with some vegetable acid, in a dose sufficient to have a free evacuant effect.

The second indication was to restore the action of the glandular and lymphatic system, and to correct the septic acid in the primæ viæ.

After the necessary evacuations are made from the primæ viæ, if there is any evidence of the remains of septic acid, which will be known by the stools continuing somewhat of a fetid smell, and from their dark colour, having little or no appearance of recent bile ; in this case I give the sal sodæ in repeated small doses ; or an alkaline julep, or the spirit. mindereri, letting the alkali prevail.

To answer the other part of this indication is a matter of very great consequence. I shall, however, state a method of practice, which I have pursued with the greatest success for about twenty-five years.

After I am satisfied that the *primæ viæ* are well cleansed, and the septic acid corrected, I give spirit. nitri dul. $\frac{3}{4}$ ss. and an equal quantity of the best brewer's yeast, and from five to ten drops of liquid laudanum every two hours, mixed and diluted with an ounce of pure cold water. The more there is of an inactive comatose state, the greater the dose of laudanum required.

I was in the first instance induced to adopt this mode of practice from the following circumstance. About twenty-five years ago I lived in the neighbourhood of Boston, at which time there prevailed a fever, which in its first stage put on high inflammatory symptoms, but which soon ran into a typhous state, and proved very mortal in many instances. I had at this time under my care a young lady in this situation; her symptoms were alarming, and notwithstanding the greatest exertions I was able to make, her fever ran into a typhous state, attended with great debility, dryness of skin, small weak pulse, mouth and tongue furred, with a dark brown coat, and in a comatose state. I applied blisters to various parts, sinapisms to her feet, gave the bark and wine freely, and diluted with suitable drink, and, in short, I adopted the most fashionable practice of that day, but all to no purpose. And now, finding all my exertions of no avail, I wished for counsel. Being young in practice, I felt a very great anxiety lest I should lose my patient. The family, agreeable to my wishes, sent for Dr. W——, an eminent physician in Boston, who, on coming and seeing the patient, and being told what had been the mode of treatment, approved of it, and said, nothing could be done better; it was therefore ordered to pursue the same treatment. He was however called on for his opinion; he thought the patient could not recover, and moreover said it was probable she might not continue until the next morning. But if that should not be the case, he was to see her with me the next day; but if death should intervene, he was to be advertised of it. In the mean time my mind was restless, not being satisfied that this state of fever was well understood. This being the case, I passed the night without rest, my mind closely engaged to investigate the nature of this disease, not from books, but endeavouring to read and understand nature by the phenomenon she exhibited; and if I have ever been able to acquire any real medical science, it has been by this method. The result of my night's labour was, to adopt the

theory above mentioned. This being the case, I was convinced that the practice usually adopted in this disease must be entirely wrong. Hence the question naturally arose in my mind, how I should answer the indication? For it appeared evident to me, that it must be by some mild cordial medicine, which would give to the stomach a certain degree of tone, in order to determine to the surface of the body, and bring into action the glandular system. I then recollected, that a few years before I had seen a patient in a similar situation, and after all hopes of recovery had been given over, the patient being just able to speak, requested that he might have the mixture of spit. nitr. dulc. with yeast, and as he had a special desire for them, and as his situation was such that it was supposed nothing could do good or harm, these medicines were given in a large quantity, agreeable to the patient's appetite; on which the patient revived, got a free perspiration, passed a large quantity of urine, and, in short, brought on general glandular action, and was soon restored to health, and is alive and well at this day.

This circumstance being recollected, induced me in the morning, after much anxiety and watching, when from these circumstances I found myself rather in a feverish state, to take the full dose above mentioned, which, when taken into the stomach, produced a very warm, cordial, and an agreeable sensation; and in a short time brought into action the whole glandular system, causing me to have a large and free discharge by urine, and threw me into a profuse sweat. This operation satisfied my mind that I had fallen upon the mode of treatment which was indicated.

At about twelve o'clock this day, Dr. W—— arrived from Boston to visit my patient. She was alive, but no better; and now all hopes were entirely abandoned of her recovery. After the Doctor and I had left the house, I told him what thoughts and reasonings I had the night before; and my doubts with respect to the nature of the disease, and the mode of treatment usually adopted; together with the result of the experiment of the medicine above mentioned; and added, that with his approbation, I had a great desire to try these medicines, notwithstanding the patient was so far exhausted. He said he was perfectly willing, as he was convinced that unless something was done more than what was known and done in usual practice, there was no help for the patient.

I immediately went and got a particular faithful female friend to go and take care of the patient until the next morning, and communicated to her my object. She engaged to be faithful to my directions; they were therefore punctually followed that afternoon and night.

With much anxiety I waited until next morning, but at an early hour visited my patient, filled with the greatest desire to know the event. On entering the room, I found to my great joy, as well as astonishment, my patient in a perfectly rational, calm, and comfortable state; her strength greatly increased, her pulse sufficiently strong, calm, and natural, with a very free perspiration, and, in fact, in a fair convalescent state.

After my first surprise was over, I asked the nurse, if the patient had had any particular evacuation during the course of the night? She told me that the patient had discharged very freely from the bowels, and by urine, and had sweated in such quantity that it had run through the bed!

I then directed the bark and wine to some good purpose, and the patient soon regained strength and good health.

I have generally found this mode of treatment successful, and to my inexpressible satisfaction in a great variety of cases, which were not immediately under my care, but to which I have been called in consultation; many of which were considered as hopeless as the one above mentioned.

Was it necessary, I could give a particular account of many important cases of the same kind. But I forbear, as my present plan will not admit of it. I therefore return to my subject.

Agreeably to the doctrine above stated, in order fully to answer our second indication, it is not only necessary to make use of internal medicines, but also to have recourse to external applications. For this purpose, blisters will have their use, by exciting the sensibility of the surface of the body.

Frequent washing with soap-suds, or some mild alkaline solution, is of great consequence, not only as it cleanses the skin from any foulness, or septic matter, but by exciting the action of the cutaneous vessels, as well as the subcutaneous glands.

In many instances I have found great benefit from the use of stimulating baths, and having the patient immersed

and thoroughly rubbed therein, viz. such as the cort. Peruv. flor. chamomile, wormwood, wild cherry bark, &c. In many instances, however, I have found the most beneficial effects from a bath made of a strong decoction of the polygonum sagittatum, or what is commonly called the arse-smart, with the addition of some soap. I have found this in some instances, to bring warmth upon the surface of the body, and greatly to assist in bringing into action the glandular system.

The one or the other, and sometimes all these means, may be found useful, according to the circumstances of the case.

May we not reasonably expect that much benefit might also be derived, in this torpid state of the system, from the use of electricity, if properly applied, by the extraction of the spark, by friction, or by small shocks? This, however, I merely suggest for consideration, as I have never seen the use of it in this disease.

If the first and second indications are answered by these means, there will have been a free and thorough discharge from the bowels; after which, there will be evident symptoms of a free discharge of bile by the biliary ducts, which will be evident by the stools having their natural yellow appearance; the mouth and tongue will become clear and moist; a large and free discharge of urine will take place, and free and natural perspiration will be restored; in short, the whole glandular system will be brought into action, and the patient will find himself relieved from an insupportable weight, and of course will, with much satisfaction, find himself ushered into a fair convalescent state.

We come now to the consideration of the third indication; which was to obviate the effects of debility.

I remark, that in attending to the second indication, it might perhaps have been expected, that the use of the bark would have been recommended; since it is a medicine so much relied on in a low state of fever, as well as in most cases of great debility.

The bark is undoubtedly a very valuable medicine, but in order for it to be useful, it ought to be used in its proper place; and perhaps there is no one medicine in the materia medica which requires more knowledge and experience for its proper use, than the bark. I am moreover led to believe that no medicine has been more abused and misused than

this has been ; and is it not truly surprising, that physicians, even to this day, should prescribe and urge the use of the bark and wine, in many cases of fever, even when there is a constant delirium, although they see their patient sinking under such a mode of treatment ? If we can fix on any criterion by which we may know the bark is admissible in practice, I think we may say, that it ought only to be given where we have good evidence that the glandular system is in free action, and where the secretions and excretions are duly performed.

To answer the third indication, I have found a decoction of the root called the *gold thread*, for a person in a low convalescent state, to have a very good effect ; also, the decoction of the lign. quass. and columbo root.

It is also of consequence that the patient should have a suitable diet, according to the power of digestion, &c. and that the bowels should be kept in an easy solvable state, until they acquire their proper tone, and until the healthy peristaltic motion is duly restored.

After a short time, the stomach may bear the bark and wine to advantage.

If the glandular system is restored to a healthy tone and action, by the use of these remedies, together with proper regulation as to diet and exercise, the patient will soon recover health and strength, to the great joy and satisfaction of himself and friends, and find himself in the enjoyment of the comforts of life.

It was stated among other symptoms that attended a typhous state of fever, that a diarrhœa sometimes takes place, and proves very troublesome and alarming to the patient and friends. I have purposely omitted taking notice of this symptom before, as I do not consider it by any means a necessary companion of this disease, but rather consider it as a proof of bad practice ; for if the first indication of cure be properly attended to, I have never known this symptom to intervene ; for it appears evident to me, that it is caused by a want of healthy bile, and of course an accumulation of septic acid, producing a preternatural action of the intestines, and that this symptom therefore is rather a last effort of nature to relieve herself from this load of poison : hence appears the great impropriety of giving astringent medicines, as glysters of starch, laudanum, &c. in order to stop this discharge. I have never seen any good effect from this prac-

tice, but have often seen the patient very much injured by these means. On the other hand, if the nature of this discharge be attended to, it will appear very evidently to be owing to the cause above mentioned. It will therefore be necessary to do now what ought to have been done in an early stage of the disease. I know it may be, and is frequently said, that the patient is now so weak that he will sink under the operation of active medicine. If my observations have been correct, the patient will be much more likely to sink under the disease, as I presume thousands have done by improper treatment. This mode of treatment, therefore, appears to me to be giving the patient the only chance for life, as I have seen evinced in many instances.

These ideas I shall illustrate by the following case, which is one among the many I have adverted to.

On the 13th October, 1808, I was called to a child of a Mr. W. Chesney, of this place, a girl about ten years old. I was told by the parents that she had been sick about five weeks, and the physicians who had attended her, had discontinued their visits the day before, as she was supposed to be in a dying state, and therefore that all medical aid would be entirely useless.

On entering the room I found a number of persons surrounding the bed of the patient, who had for many hours expected that every moment would have been her last. The first thing that caught the eye on approaching the bed was a most distressed, and a very emaciated form, with the facies hippocratica peculiarly marked in every feature, together with petechial spots over the face, neck, arms, and hands; also vibices over the abdomen, &c. Extremities cold, both upper and lower; no pulse to be perceived in either of the arteries of the fore arm. Skin dry, the lips, teeth, and tongue covered with a dark brown dry crust. A constant diarrhœa of a blackish green matter, attended with much griping and pain in the bowels, which caused the patient to make the most distressing outcry and complaint; almost constantly calling on her mother, and those about her for relief. I asked if she was constantly exercised in this manner? I was informed that she had been so, for several days, only when under the operation of the medicines she had been taking, and then for two or three hours she would be apparently easy, but in a stupid state; and after this was over, her complaint returned with

more violence than before. Upon inquiry, I found the remedies had been glysters of starch, with opium and camphor, &c. in pills; chalk, julep with laudanum, &c. together with a number of astringent medicines. But notwithstanding she had been faithfully treated with all these good things, still she sunk under the weight of disease, until reduced to the condition above mentioned.

In the situation of this distressing scene the waiting spectators anxiously inquired, whether any thing could be done? I told them, that from the symptoms and situation of the patient, I could afford no rational encouragement, but if the parents wished me to do any thing, I would do the best that I could, leaving the event to a kind Providence. They manifested an anxious desire that I would do what I thought best.

I accordingly gave the patient a dose of the cerated antimony and calomel. It operated very well, both as an emetic and as a cathartic, and discharged a large quantity of blackish-green fetid matter; after which the patient appeared relieved, and the circulation much restored, so that the pulse became perceptible, and the extremities warm. I directed sinapisms to the feet, the free use of friction with flannel in warm soap suds over the surface of the body, &c. directed also the spit. nitri. dulc. and yeast, &c.

The next day she again sunk apparently into a dying state; the extremities became cold, pulse ceased to beat, and every favourable symptom was entirely vanished. In this state I directed a warm bath of the decoction of arse-smart and May-weed,* &c. in which she was faithfully rubbed. The circulation was again restored, together with a tolerable perspiration. I then gave her another cathartic, which operated very freely; after which she was much relieved, and the discharge from the bowels began to assume a better appearance, exhibiting symptoms of a return of action in the liver and the rest of the glandular system, by the stools having the appearance of recent bile, and by a perspirable state of the skin, &c.

I now directed the use of the sal sodæ and alkaline julep, in order to convert any remaining septic acid in the primæ viæ, &c. I found it necessary to pay particular at-

* Polygonum Sagittatum. Anthemis Cotula.

tention to the state of the bowels, in order to obviate a costive habit. She soon rose into a fair convalescent state; and from that, by suitable care and attention, gradually obtained health and strength. I saw her a few days ago in the street, well and hearty as any girl of her age.

I have anxiously been inquiring many years, to satisfy my own mind, what that particular state of the human body must be to constitute a real typhous state of fever.

I have endeavoured to obtain this information from medical books; I have also frequently made the inquiry of my medical brethren, but could never obtain a satisfactory answer. I have, at length, after much consideration attempted to answer this question in the foregoing observations; and if they are found to be true, and should satisfy the minds of my medical brethren, and serve to diminish the quantity of natural evil among my fellow men, I shall be amply compensated.

But, on the other hand, if any one be disposed to find fault with my ideas on the subject, both as to theory and practice, I can tell him, that the field is large enough for all philanthropic minds to act in; and if he can, and will do much more good than is in my power to do, for the benefit of society, I doubt not but he will have, in his own mind at least, an ample reward; and, at the same time, hope and trust that I should rejoice at the acquisition of so desirable an object.

Albany, Jan. 1st, 1811.

An Essay on DISEASED TONSILS; in a Letter to Dr. FELIX PASCALIS. By HORACE H. HAYDEN, Esq. Surgeon Dentist of Baltimore.

(Continued from p. 246, and concluded.)

I Have already remarked that diseased tonsils are a consequence of some cold, syphilis excepted, or catarrhal affection, which is attended with inflammation and soreness of the throat; and one of the sure consequences of diseased tonsils, is an enlargement of one or more, or even all of the neighbouring lymphatics; so that in some cases they are

visible to a bye-stander. This constitutes what is almost uniformly stamped with the name of scrophula.

Admitting it to be such, may I ask if there is a more indefinite term, in its general acceptation, applied to the diseases of the human body? Or is there one more likely to swallow up the long list of complaints incident to man, and reduce the whole to a unity of diseases?

Indeed, from the general and frequent application of the term to a great variety of complaints which have but little or no relation in their characters, nothing appears more probable.

Scrophula is said by some to be an incurable disease; by others, one that seldom yields to medicine. In cases of hydrarthrus,* or spina ventosa, which is scrophula, (according to Mr. Bell) the disease is often subdued by amputation, and frequently without it, and any further indication or return of the disease in the system.

Rachitis, or rickets, is perhaps strictly a scrophulous complaint, and one, that if sometimes alleviated, is seldom cured. Now, this disease prevails throughout the whole system. The last is limited mostly to a joint, or a limb. The one occasions the enlargement of the extremities of the bones, the other destroys them.

Gibbosity, or distortion of the spine, is considered of a scrophulous nature, or at least to depend on scrophula; and in seven cases out of ten, perhaps the true cause may be traced to a real external injury. I have been called to several cases, every one of which could be traced to the date of some blow on the spine, or a fall, by which the particular part affected was mortally hurt. Here again the disease is local, that is, in its operation on the bones, while the rickets are generally constitutional. The gibbosity of the spine has often been known to heal spontaneously, or without any assistance of art, and more frequently by it, when seasonably attended to; while the other trifles with the most consummate skill, and seemingly sets nature at defiance.

In gibbosity of the spine there is often a rapid destruction of the bony substance, without any visible enlargement. In rickets, a slow but constant enlargement about the joints, without any sensible deperdition of substance; except in some few cases, the bones have become carious; and in

* According to M. A. Severinus it should be *Pedarthrocace*. Edit.

others, a white swelling in some of the joints has appeared; both of which, as they but seldom occur, may have depended on some incidental circumstance, rather than on rickets alone.

Phthisis pulmonalis is by some considered as scrophulous, and so is cancer. The first may be in consequence of general debility, or may be occasioned by pleuritic affections, arising from severe colds, and several other causes. The latter may be occasioned by an obstruction in the economy of some gland, or from an external injury. The discharge from the one is ichorous, in the other purulent.

The yaws, Dr. Cullen calls *Scrophula Americana*. This complaint is decidedly infectious,* while no other case of scrophula is perhaps known to be such. Dr. Hunter says, that it cannot be said to be catching.

Some do not hesitate to call all ulcerative sores that may appear upon the surface of the body, and all eruptive, or otherwise herpetic affections on the skin, of a scrophulous nature, no matter from what, or by what cause they were produced.

I have frequently heard the term applied to cases of *epulis*, and *parulis*, which are so common in the mouths of different people; the one a consequence of an impostsomated tooth; the other, that of a languid or obstructed circulation in the gums, occasioned perhaps by the accumulation of extraneous matter upon the teeth irritating and inflaming them, by which they are inflated and puffed up.

Dr. Hunter, in speaking of scrophula, says, "That the matter is produced *without any inflammation*. It does not produce any *effect* on the *constitution*, or on the *absorbents*, or on the *lymphatic glands*; but only a *single gland* will be affected. Hence the *constitution is not affected*." If this be true, how can rickets be called scrophulous? It pervades the whole system; and in the case of diseased glands of the neck, it is not confined to one, but they all seem to be more or less affected by it in some cases.

That particular grade, or species of the disease under consideration, is, I believe, called *scrophula fugax*, and is considered of the most simple kind. It is seated about the neck, and is for the most part said to be caused by the resorption from sores on the head.† I have already no-

* See Hillary on the Diseases of the West-Indies.

† See Lara's Surgical Dictionary, article Scrophula.

ticed the remarks of Mr. Munro, wherein he mentions that the glands of the face are sometimes enlarged by the absorption of matter from gum-biles; and those that accompany the occipital artery are enlarged by the absorption of matter from wounds on the head.

Mr. Hunter observes, that in dentition "the lymphatic glands of the neck are at this time apt to swell."*

Mr. Bell observes, that "these glands are consequently liable to disease in consequence of absorption of matter from the face, throat, and nose,"† &c. But they no where pretend, I believe, that it is a scrophulous indication. The glands seated in the groins are frequently enlarged, and sometimes painful too, in consequence of a wound or sore upon the foot; and the same thing occurs to the glands of the axillæ, from sores or wounds of the hand; but it is seldom if ever, I believe, considered as a scrophula, or even scrophulous. Indeed, so numerous, so various, so contradictory, and, in some instances, so inconsistent are the opinions advanced on the subject, that it seems impossible to reconcile them upon any principle whatever, to the order in which Dr. Cullen has classed the four grades of the disease.

If the enlargement of the glands of the neck were occasioned by the resorption of matter from sores on the head, and that, in this state, it constituted scrophula, what would be the character of the disease, if the glands became enlarged and diseased in consequence of the absorption of morbid matter from a wound on the back or side of the head, occasioned by a fall, or from the cut of a sabre? Certainly this would not be considered as scrophula. But suppose that no wounds or sores existed on the head, and the glands of the neck were nevertheless enlarged and diseased; if they were rendered diseased in the first instance by the absorption of morbid matter, it becomes a very rational conclusion, that, in the second case likewise, they were affected by the same, or a similar cause, though springing from a different source. To this I think I do not hazard much in asserting, that it does arise from a different source, that is, from ulcerated tonsils; and but seldom from any other cause, except those already mentioned. So uniformly does it occur, that whenever the glands of the neck become enlarged and hard, it may be considered an unequivocal

* See Hunter on the Teeth, part i. page 116.

† John Bell's Anatomy, vol. iv. page 823.

symptom of ulcerated, or otherwise diseased tonsils; and, as in case of a wound in the head, by which the glands are enlarged, when the cause is removed, the effect will also be removed.

Hence, whether it may be considered as scrophula or not, a person ought not to be deterred a moment from endeavouring to subdue a disease so serious in its consequences, under an impression that it is difficult to control, because scrophulous.

That this peculiar disease of the tonsils is the effect of a cold in the first instance, I am induced to believe, from the circumstance, that almost all the cases that have come within my knowledge, could be traced to the period when the persons were much indisposed in consequence of a severe cold and sore throat. There are various other circumstances which tend to prove the fact, and among others the following.

In the autumn of 1809, I was called to wait on a family for professional purposes; being about to come away, the lady requested me to examine the mouths of two little daughters, one about four, and the other about six years of age. I asked one of them to come to me. She appeared to take no notice of what I said. The lady observed, that I must speak louder, as she was deaf. I found the child's mouth in an unhealthy state, and her teeth much decayed, which is common with children, and also, the tonsils much swollen and otherwise diseased. I then spoke to the second, whom I found in a corresponding state in almost every respect. It being a circumstance so singular, I did not hesitate to inquire into the subject as far as prudence would dictate; and the result was, that they both caught a bad cold, which was attended with a sore throat, &c. I then advised the parents, by no means to neglect having something done for them, as they had already remained a long time in this state. I was then asked, What was the most proper treatment? I referred them to their family physician; observing, however, that if the diseased glands of the throat were in any degree accessory to the deafness, some suitable gargle would perhaps determine it. I accordingly recommended an infusion of Seneca snake-root, slightly acidulated with the acid of vitriol; which he immediately sent for from the apothecary. Two weeks or more after I met the gentleman in

the street ; he observed, that he believed he must make me a present. I asked him for what ? He replied, that his children were so much better, that they could hear very distinctly, though not perfectly. I observed to him, that he ought not to relax in his attention to the subject, until the cure was perfected, as it was a matter of too much consequence to be neglected.

In the spring following I placed my little daughter, of four and a half years old, to a school, kept by an elderly lady and her daughter, and to which, as I was afterwards informed, the two little misses above mentioned had been kept for near two years.

In the beginning of the winter following my daughter was attacked by a violent cold and sore throat. After some days it subsided, without exciting any suspicions in my mind. Soon after she was again seized with another attack, not so violent. In this way several attacks succeeded each other, which led me to examine into the cause of her being, apparently, so much more susceptible of attacks of this kind than usual—by which, in the first instance, the tonsils were left, on the subsidence of the cold, hoarseness, &c. in a state very much swollen and rough, and in a few weeks after I could trace the glands all about the neck. On inquiry I found that the room in which the school was kept, was small, and sometimes contained from 25 to 30 little children ; in the middle of the room was placed a small ten-plate stove ; by means of this stove and the children together, the heat of the room was sometimes raised to an almost insupportable degree ; and when the school was dismissed, the door was opened, and the children suddenly ushered into an atmosphere, which differed perhaps from forty to fifty degrees or more. The consequence was, that few of these infant blossoms could bear the transition ; their tender constitutions was overpowered by the effect, and almost every child that attended the school, I am informed, shared a similar fate with my own and the two little misses first mentioned.

To alike causes I have been able to trace numerous cases of diseased glands of the throat and neck, which are generally considered as symptoms of scrophula.

It now remains to offer a few remarks on the probable cause and general prevalence of this complaint, and one or

others, more particularly in certain parallels of latitudes in the United States, and even in Europe.

Here is presented a field, vast in its extent, and as yet but lightly explored ; important in its consequences, full of useful deductions, and rich in its rewards, to whoever shall enter it with a persevering spirit, and in strict search of truth. But far too vast for me in the present instance, I scarcely dare enter its outskirts, in search of a few facts relative to one complaint alone ; leaving others, far more complex, and on which volumes might be filled, for those whose talents for research are better suited than mine, and whose success must be ultimately more sure, and by far more ample.

In consequence of the unusual prevalence of various diseases that have afflicted mankind the last century, a reference has been had to the climates, in which those diseases prevailed, and the probable effects of changes, of which they were supposed to be susceptible, in consequence of the physical alterations which have been produced in different latitudes, by an increase of population, and the various improvements natural to a state of civilization, in order, if possible, to trace the latent cause. On this subject various and extensive views have been taken, and important and interesting opinions advanced by different writers: Among which, on the change of temperature, Bernardin de St. Pierre holds a conspicuous rank ; who also, in his *Studies of Nature*, has offered an interesting view of the moral and physical effect of climate in different parallels of latitude. But few, if any one, has taken a more ample and extensive view of this subject than Dr. Barnwell, in his *Physical Investigations*.

Yet, in their laudable and zealous inquiries, they seem to have lost sight of, or have paid but little or no attention to a subject which has a powerful influence in this tragic scene, viz. a view of the probable effects of customs and habits of dress, which are almost daily changing and receiving new borrowed forms, when considered in relation to the climate and temperature in which they are indulged.

In this they have exposed one of the great faults chargeable to human nature, and betrayed our aptitude to censure in others what in reality we are guilty of ourselves ; or, in other words, to seek for a mote in the eye of another, when the beam is in fact in our own.

They have instituted an inquiry into the *fixed* and *immutable laws of nature*, as it respects the vicissitudes of *climate*, seasons, and temperature, with a view to detect the cause of certain diseases, when, in truth, the guilt lays at our own door. This, I think, can be proved by the most abundant evidence. But, although I feel a disposition, I have not the talent or leisure to pursue it; I shall, therefore, only touch upon some of the most prominent points, in order to show why the complaint is so prevalent among us.

Firstly. It is said that scrophula is almost unknown in tropical climates. This will apply to almost all the nations inhabiting the torrid zone, without entering into a particular detail.

Secondly. The Baron Humboldt says, that scrophula is scarcely known in Mexico.

Thirdly. Dr. J. Hunter says, that "persons are continually affected with it who come from hot to cold climates;* and those are cured, who go from cold to warm ones." I might easily quote a number of authors, who have advanced similar opinions.

Here we might reasonably infer, that its prevalence depended entirely on the climate; for Dr. Hunter further observes, that it is "not known in constantly warm climates."

But let us inquire whether it depends directly on cold or warm climates; if so, instead of our being considered a scrophulous nation, it ought rather to be called a scrophulous climate.

But I feel so opposed to the application of the term, "enlarged glands of the neck," that you will excuse me hereafter for substituting that of "glandular affections" in its stead.

We are informed, that the primitive inhabitants, or native Indians, such as they were found by the first Europeans, were likewise nearly, or quite exempt from glandular affections: Not only so, but the consumption, or pulmonary phthisis "was unknown among the Indians in North-America."†

* Here I wish to recal the attention to the case of John Martin, who died of a consumption in the hospital at New-York, as related by Dr. Black, and which has been already noticed. This man was a native of, and bred in the West-Indies, and, doubtless, was more liable to those glandular affections, which ultimately ended in phthisis trachealis.

† See Medical Inquiries, vol. i. page 200.

The same remarks are applicable, in either case, to the inhabitants of the southern temperate zone, viz. the natives of New-South-Wales, Patagonia, New-Zealand, and Terra del Fuego. This inference is drawn, not from any particular information on that point, but from certain circumstances noticed in the account given of those people by Captain Cook and others, which strictly justifies the conclusion. Nay, I am much mistaken if the same remarks do not apply to the native inhabitants of the same parallels of latitude in which we live, after leaving the eastern confines of Europe, quite round the globe.

If then the different tribes of native Indians, once inhabiting every part of the United States, and which still surround us in part, were exempt from either glandular affections or consumption, the subject of inquiry is rendered still more interesting; particularly so, when we take a view of the general healthiness of the natives, and compare it with that of the great mass of civilized society now inhabiting the same parallels of latitude, and subject to the operations and alternate vicissitudes of the *same climate*.

The obvious and striking difference which irresistibly forces conviction on the mind, naturally leads to the conclusion, that the prevalence of glandular affections does not depend on climate so much as on the too frequent changes in our modes of living and habits of dress. This will appear evident if we compare the relative customs and habits of those two classes of people, and their fitness or adaption to the different changes of temperature.

The native Indians generally are inured, from their infancy, to all the severities of winter, and the changes of the varied seasons, by customs and habits established at their birth, and almost undeviatingly persevered in through life. Their dress (if it may be so called) is such as not to promote, in an immoderate degree, the act of perspiration, nor, on the contrary, to check its operations in an undue proportion. Their mode of living, as it respects their accommodation, corresponds with their dress. They are not accustomed to being immured within the walls of an almost air-tight room, sometimes crowded with people, and by a comfortable fire-side, from which they emerge into an atmosphere that will check every pore, and cramp every muscle in the system; neither are they accustomed to indulging themselves

in their hours of repose on beds of down, and under a weight of covering calculated to relax every fibre ; but to that, perhaps, which is more consistent with their nature, and habits of life, a scanty fire, in the midst of a wilderness, during the severities of winter, or to the miserable shelter afforded by their wigwams, through which the cold blasts of winter are whistling in every direction, which renders the temperature almost the same within as without.

The articles of food which constitute their subsistence and support, are simple, yet nutritious to a degree that renders them, together with their different exercises, both muscular and athletic, capable of supporting all the burdens and fatigues incident to their situations in life.

Thus clothed, fed, and accommodated ; thus rigidly adhering to customs which are rendered habitual from their infancy ; they are so completely inured to the transitions of temperature, as to render them almost as much a proof against the sudden and alternate changes, and attacks of disease, as the game which they are in the daily pursuit of.

The same is observable among the tribes of the high southern latitudes, alike inured to customs and habits from their infancy, both as it respects their dress, domestic accommodations, exercises, and mode of subsistence ; and which has doubtless left them as free from complaints or diseases, resulting from sudden changes of temperature, as the native tribes of America.

Hence it appears, that under whatever climate we may have birth, that habits of living and dress, suitably adapted to the temperature in which we live, begun, and established in infancy, and faithfully adhered to in life, would free us from many of the distressing diseases incident to mankind, and particularly the one under consideration. This opinion receives additional support in pursuing the present subject of inquiry.

If we refer to the first European settlers in this country, and the succeeding generations, for almost one hundred years after, we find them far less afflicted with the present prevailing diseases, (except some epidemical complaints which arose from local circumstances) than the general mass of the people at the present time ; particularly those of a pulmonary nature, and catarrhal and glandular affections.

It is said by Dr. Rush, that “ it (the consumption) is scarcely known by those citizens of the United States who

live in the first stage of civilized life, and who have lately changed the title of the *first settlers*."*

Their habits of dress were in a suitable degree adapted to the climate and temperature in which they lived; the articles which constituted their daily food and subsistence were simple and nutritious; their mode of living abstemious, or at least temperate; their exercises, that necessarily devolved upon them, such as to render them strong and vigorous, and, at the same time, less susceptible to the vicissitudes of temperature.

Thus situated, they realized all the luxuries of the world, while they enjoyed *health, liberty, and peace*.

If, in the next place, the inhabitants of the northern and middle states particularly were divided into three classes, and also the principal part of those of Europe into the same number, it would be no difficult matter to point out the cause, the origin, and rapid progress of pulmonary, catarrhal, and glandular complaints among them, and of their increasing prevalence in those latitudes, and the classes among which they are most prevalent, and the reasons why. But, in doing this, I should be carried still further beyond the limits prescribed in the beginning, and perhaps exhaust the whole of your patience, if not already so. I shall therefore confine myself within the northern and middle states, occasionally referring to cases abroad.

In order to show why the prevalence of glandular affections is more general in the United States than among its primitive inhabitants, it becomes necessary to take a more particular view of the climate and temperature in which we live, or at least that of the northern and middle states.

Situated as they are, on the Atlantic coast, it will be found, that from the latitude of near 32° to 43°, or 45° north, the temperature is so variable, and, at certain times and seasons of the year, the alternate and sudden changes are so frequent, and so opposite in degree from warm to cold, from dry to the humid or wet, &c. that it is scarcely equalled in any part of the world.

Their situation is nearly on a medium between the torrid and frigid zones; being alike exposed to the severities of the one, and the mild influence of the other. It is within

* See Medical Inquiries, vol. i. p. 200.

those parallels of latitude, and at certain seasons of the year, that those two opposite climates seem to be contending for pre-eminence; for, in the course of the autumn, while the sun is inclining to the south, yet still imparting its cheering rays, as if to enliven drooping nature; the frozen zone, as if impatient of its tardy progress, raises his sullen front, and, while we, in thoughtless insecurity, enjoy a comfortable glow of warmth, a sudden blast chills the very blood, and renders every muscle tremulous under his brazen influence. These sudden and alternate changes are but too frequently known, and too severely felt, by many, to deny their baneful influence: nor are we freed from this unpleasant scourge of warring elements through most of the fall, winter, and spring months.

As soon as the sun begins to approach the summer solstice, and we again begin to experience his genial warmth; as soon as his enlivening beams begin to reanimate the remains of decayed nature, and establish his dominion here; the frigid zone, as if jealous of his rights, summons afresh his howling forces to contend with the orb of day. This unequal contest is, within those latitudes, supported on both sides, with great force through the month of March; when the resources of the north and west beginning to fail, the forces of the north and east are called in as auxiliaries; and as soon as the glowing warmth of an April sun is shed upon our horizon, and the springs of nature are thrown into gentle action, every operation of the kind is, on a sudden, checked, or suspended, by an attack from the north and east; in which are employed all the powers of wind, hail, rain, and snow, swept from the trackless regions of the Atlantic, to establish on our shores its baneful sway, and scourge with disease both man and beast. Nor is this cheerless scene alternated for days in succession, except, as if it were to take advantage of the returning influence of the sun, to disgorge Hudson's and Baffin's Bays, and Davis's Straits, (which are the great engines by which our spring is checked, and often retarded) of their mountainous contents of ice, which are swept, by wind and current, down our Atlantic coasts, as the last resources of the north, to chill our atmosphere, and arrest the influence of returning spring. Those immense floating islands of ice are seen as far south as the Banks of Newfoundland, and their chilling influence is felt, not

only in the northern states, but as far south as North-Carolina.*

Thus are the changes of seasons, and I may almost add, of days, alternated from one extreme to the other, in so much, that the undulating *argentum vivum* may truly be said to be never at rest for more than one half of the year.

With this view of the subject, let us, in the next place, see how far the modes and habits of dress are consistent with this variety of temperature.

In a country like this, where neither customs nor habits are regulated for any length of time, by any particular standard; where population increases as it has within half a century past, and civilization and refinement are daily improving; where a prevailing propensity for a gratification in all the luxuries of life becomes habitual; where, from an uninterrupted intercourse with all the civilized nations of the world, the rage of fashions is daily receiving and adopting new borrowed forms, it is not unreasonable to expect a deviation from those habits which were adopted as a kind of standard by preceding generations, and which ensured to them the comfortable enjoyment of such a measure of health.

But the fact is, they vary so often, and differ so much, and are carried to such excesses, (when considered in relation to temperature) that there is too much reason to suspect them as being the cause of the prevalence of much, and serious disease among the inhabitants of this country, as well as in many parts of Europe.

I would not wish to be considered as inimical to habits of refinement, to modes of fashion, or to the indulgence of every rational comfort that is cast within our reach; but I regret, as must every thinking person, the evils attending those indulgences when unadapted to the temperature we live in.

It is impossible for the most ingenious mind to reconcile the habits of dress, exercises, and amusements in use with a large portion of society on particular occasions, with the season, or to the degrees of temperature in which they were indulged.

It is equally impossible for the female part of society, who are by far the most subject to pulmonary and glandu-

* See *Physical Investigations*, page 30.

lar affections, to escape, with a firm constitution and unimpaired health, to the meridian of life, while their habits of dress, hours of recreation, the kind and degree of exercises, are regulated only by the ceaseless efforts of creative fancy, without ever consulting their adaptation to the climate or temperature in which they are to move and act, or attending to those precautions which are *indispensably necessary* for the preservation of health.

Under a false impression of becoming less susceptible of changes of temperature, it has, of late years, become a prevailing custom with many of both sexes, in order to season themselves, as it is termed, and avoid the incumbrances arising from outward garments, or appendages, suited to the severe changes of temperature, frequently to expose themselves, at all times and seasons, as lightly attired as comfort could in any shape possibly dispense with.

Habits of this kind, as I have already observed, begun and established in infancy, and also a degree of consistency in all our other habits of private economy, and strictly observed through life, might be attended with happy effects. But, with those who have been bred to habits of delicacy, tenderness, and ease, it but ill accords with their constitutions to indulge in habits of this kind, since an undue excitement in the system, suddenly checked, either by a cold or damp atmosphere, is alike pernicious to the constitution and health of the subject, and in a far too great a number of instances, fatal to both.

In almost all cases in society, where, regardless of consequences, we see those habits indulged in, we likewise see diseases, under varied forms, *sure attendants* in the train, or *following closely* in the rear. To enforce the truth of this assertion, I beg leave to transcribe the following beautiful lines (beautiful, because replete with truth) from an introductory lecture to a course of popular instruction.*

“In aid of delicacy of constitution, art has engaged in many a contest with nature. The carpetted flooring, stuccoed walls, and double doors of modern apartments, are intended as its screen. But these, even if they were to be reinforced by the double windows of the north, would be an unavailing protection. Nature, brandishing her scourge, pursues with quicker steps than those who forsake her or-

* See Beddoes on Consumption.

dinances can retire. The susceptibility of impression *increases faster* than ingenuity can bar out external agents ; and in the best secured fortress of effeminacy, it is the fate of the occupant to shiver more at the inclemencies of the seasons, than the mountaineer who is exposed to all the blasts of winter."

There is doubtless a standard, in relation to habits of dress, &c. suited to all the vicissitudes of climate ; and such as would ensure health, and not oblige us to descend to the grade of savages, nor to vary in our present modes of refinement, or state of civilization ; and which, if early established, and strictly observed, would unquestionably free us from, or lessen, in a degree, many of the prevailing diseases of the present time, at least the one under consideration.

Happy would it be for society in these respects, were this, or such a rule, to become a part of our education, to be rendered familiar in infancy, deeply impressed in childhood, and practically adhered to through life. But, instead of which, a contrary course is followed, as if with an intention to sow the seeds of disease, and increase the evils incidental to human nature : For such is the rage of novelty at the present period, and such the propensity to display it in every branch of the family, that even the tender infant, as soon as he is born, is wrapt in his weight of clothes, nursed in the lap of tenderness with all imaginable care ; nor is a breath of wind scarce suffered to alight upon his pearly skin, for fear of spasms or fits ; and is, as soon as able to sit alone, often roused from his sweet repose to parade in the street, or abroad in the cold or damp air, without an apology for a covering on his tender feet, neck, and arms, from his shoulders to his finger ends ; and this is, (I believe too often) the commencement of seasoning, in order to render him hardy. If he is so fortunate as to escape the angina, croup, or any other disease that might prove fatal, until he arrives at an age in which he is capable of running abroad, or going to school, those lessons of discipline are sometimes relaxed, and sometimes rigidly enforced, and nearly in the following, no less inconsistent, than, singular manner. Their domestic economy, as to dress and accommodations, are, generally, such as would probaby free them, or at least a great portion, from glandular affections. But when they are suffered to go abroad, or appear in public, the opportunity is eagerly improved, to show off to advantage the beauty of their propor-

tions, and delicate whiteness of their soft and transparent skin. To this end, the necks, breast, and arms of those little victims, which, when at home, and in a comfortable room, are kept covered with long sleeves and high collars, with a view of increasing the whiteness of the skin, are at once fully and openly exhibited to view ; whatever may be the state of the atmosphere to which they are exposed, soon their flesh is insensibly benumbed, while scarce a murmur escapes their quivering lips.

It is no uncommon thing to see children of this description abroad in the arms of the nurse, or led by the hand through the streets ; and much less uncommon is it to see children of both sexes going to, and returning from school, particularly in the late fall and spring months, with their necks, breasts, and arms thus completely exposed to the chilling atmosphere, and, at the same time, exhibiting all the colours of a rainbow.

It would be fortunate indeed for thousands, in as much as health is concerned, did not this practice extend so generally among the female part of society ; the flesh of whose necks and arms too often present to view a death-like chill, in the colours of blue, black, and purple.

Since many of the customs and habits of which I have been speaking are borrowed from the European nations, where they are in many instances indulged in to excess, the question very naturally arises, Why are not the Europeans inhabiting the same parallels of latitude equally as subject to catarrhal and glandular affections ? It is well known and acknowledged, that the climate of Europe, although in a much higher latitude, is much more uniform and temperate than that of the United States. In this respect America differs more from Europe than any other part of the world. And this mildness of temperature England and Ireland enjoy in the greatest perfection.* France and Spain are separated by a chain of mountains, some of which are covered with eternal snow ; yet those countries are remarkable for mildness of temperature, as are also the countries on each side of the Alps. Yet, as much as the Europeans are favoured in this respect, more than the inhabitants of the United States (the northern and middle at least), it is evi-

* See Barnwell's Physical Investigations, page 22.

dent, nevertheless, that since the period in which they began to deviate so materially from the more ancient customs and habits of dress, even to the present day, those complaints have not only been more common, but have increased in prevalence more than at any period within the knowledge of man. And, without entering into a lengthy discussion, the following remarks will tend to place the subject in its proper light, as it respects both Europe and America.

"Within the memory of persons now living, the activity of commercial speculation pushed the cotton goods manufactured at Manchester, into the farthest recesses of Scotland; and the people, allured by their gaiety of colour, and firmness of texture, unwarily relinquished the warm *woollen garb* of their *forefathers*. The reporters every where speak of a change *for the worse* in the general state of health, as taking place, under their own eye, in consequence of this change of dress."*

Mr. Carlisle observes, in his letter to Dr. Beddoes, "I understand, from a well informed and correct observer, that the *true* Dutch people hardly know scrophula in any form, but the low country people, who imitate French dress, are very liable to all its appearances."†

Dr. Cogan writes to Dr. Beddoes the following: "At church, and at the theatre, devotion and pleasure are always interrupted, and sometimes totally destroyed, by incessant coughs, expectorations, &c. while, in the largest assemblies in Holland, instances of a similar kind are scarcely known. This very striking difference I have been induced to ascribe to the contrast observable between the two countries, in the construction of their habitations, and in the peculiarities of dress."‡

Further, "It has been remarked, that as luxury increases in Holland, respecting the greater comforts and accommodations of their apartments, the natives are becoming *more subject to catarrhs*; and they are also much more exposed to what we term *catching cold*, than the Dutch that retain their *pristine manners*."§

The evil consequences resulting from those habits has likewise been noticed in other parts, particularly in France,

* See Beddoes on Consumption, p. 88.

† See do. do. p. 74.

‡ See do. do. p. 75.

§ See do. do. p. 82.

where these customs are carried to greater excesses perhaps than in any other part of the world.

Mr. Gariot observes, that, "The practice of leaving the arms naked quite to the shoulders during the cold seasons is productive of the most serious consequences, particularly to children of delicate constitutions, (or catarrhal) who are subject to rheums, or whose breast (*la poitrine*) is in a delicate state."*

To numerous irregularities and excesses of this kind, constantly varying and increasing for many years past, and to a want of due regard to the vicissitudes of climate, and sudden changes of temperature to which we are exposed, we may attribute many of the physical evils to which we are subject; and particularly the one under consideration.

To what, besides, can we ascribe the prevalence of diseases in this country, which were unknown to the natives, and some of which are scarcely characterized in the long and tedious list of the immortal CULLEN?

On the PRESERVATION of the SOLDIER'S HEALTH; in a Sketch of the CAMPAIGN in Hungary and Austria, during the reign of the Emperor LEOPOLD I. as connected with the sickness prevalent in the Christian armies, and of the means recommended by L. A. PORTIO, a distinguished officer of the medical staff in the Imperial service, to guard against it. In a letter to the Hon. JAMES MONROE, Secretary at War, &c. from SAMUEL L. MITCHILL, dated New-York, January 1, 1815.

SIR,

I Beg leave to refresh your memory with some directions for preserving a soldier's health in camp.

On this important branch of military arrangement, I have thought it might be worth the while to rescue from the oblivion in which it lies, the treatise of LUCAS ANTONIO PORTIO, of Naples, *De Militis in castris Sanitate tuendâ*. It is dedicated to Count RUDOLPH DE RABATTA. It contains an account of the occurrences in Hungary, Austria, and

* *Maladie de la Bouche*, page 210.

other parts of Germany, during the wars between the Mahometans and Christians, in the reign of Leopold I. about the year 1683. The writer of this work appears to have been a busy actor, and an acute observer during the mortality which prevailed in the armies that campaigned along the Danube, between Buda and Lintz; and among the epidemic diseases that destroyed the human species at Vienna, Venice, Naples, and other places.

With such opportunities and qualifications, PORTIO offered his sentiments to the world. His book was republished with amendments, at Leyden, in 1741.

He bears witness to the uncontagious nature of dysentery. For Vienna, which was visited with diarrhœa and dysentery in 1684, was free from those diseases the following year. (*Præfat.* page 11.) The principal part of those men who suffered from them, fell sick at Lintz, and so conveyed their maladies to Vienna, as far as his knowledge extended; and he was pretty sure the inhabitants of Vienna experienced no detriment from the communication with the sick from Lintz. Of the many persons who attended upon Count Waldstein, when he was ill with the dysentery, and frequented his chamber, not one was affected either with that disorder or with diarrhœa. He relates an instance of six persons at Lintz, dwelling in a room not more than twelve feet square, and one of them, a lady, dying of a dysentery, while all the rest remained perfectly free from the distemper. Portio further declares, that although several individuals in one and the same family were attacked by dysentery, about the same time, yet no body could ascertain that one caught the disease from the other. But as they all lived in the same air, and used nearly similar food and drink, so they fell into that disease according to the predisposition existing in each.

Portio affirms roundly, that the camp distempers prevailing at the memorable siege of Buda, were not contagious. By a providential favour Vienna did not receive any contagious taint, though the sick were constantly carried thither from Buda. The uninterrupted intercourse they held with the emigrants from camp was not found to spread this disease in the smallest degree. (*Ibid.* page 13.) The distempers were dysenteries, fluxes, tertian, quartan, and anomalous fevers; obstructions in the viscera; swelled feet; coughs; dyspnœa, with a white tongue in most instances,

but sometimes with a black one : a class of maladies, especially the dysentery and diarrhœa, which destroyed more soldiers in the imperial armies than the swords of the Turks.

All this shocking mortality he ascribes, in the main, to almost universal and total want of care and knowledge among the men, how to preserve their persons and to guard their health. It seemed as if the great object was to raise armies, and the fashion afterwards to let them perish in the field, through inattention to the rules of animal preservation.

Portio divides his work into four principal sections. 1. He inquires into the causes of camp distempers, particularly in Hungary ; referring them very much to bad water, and to variable and inclement states of the atmosphere acting upon the bodies of military men, brought into active service ; and also to the exposure of campaigning, after having been accustomed to living in the snug quarters of garrisons and cities. 2. He gives practical directions for preparing and procuring healthy articles of food and drink, by means that are within the soldier's reach. 3. He prescribes rules for preserving soldiers from the evils they may suffer from exposure to the air, in its various conditions of hot sunshine ; of mines and places recently dug ; of impregnation by clouds and dews ; of contamination from ordure and carcasses ; with directions what a soldier should do preparatory to his going to sleep, and what he ought to observe after he gets up. 4. The methods are detailed of guarding the soldier from the invasion of particular diseases, such as dysenteries, diarrhœa, fevers of various forms, jaundice, coughs, headaches, rheumatisms, &c. and on the method of keeping the stomach in good condition, and supporting the digestive powers.

On all the points which he examines, he shows himself to be thoroughly acquainted with practical and economical details. He writes like a physician who is accustomed to the service of war. Conversant with the duties and sufferings of the soldier, he lays down sound instructions on the preservation of his health while awake ; on securing it from harm while asleep ; how to cater for himself, when that is necessary, and to avoid the tricks and impositions of sutlers ; how to preserve and cook his provisions in the best manner ; and in short, by what means he can best accomplish the important business of self-preservation. He teaches

every man to make the most of his situation, and to adopt the practical expedients proposed for the campaigner's comfort, in cases of necessity. He shows his particular acquaintance with minute things, in a department infinitely important to military strength and success, but in which unfortunately there are very few proficient.

Portio lays great stress, and very properly, upon the effect of a good supply of caloric upon the constitution, through the medium of the stomach. He advises the soldier to cherish his health by the introduction of heat, in very impressive terms. He carries this sentiment so far as to recommend a kettle of hot water to be kept for the constant use of soldiers in camp, hanging over every fire where a mess cooks its victuals. As a specimen of his way of thinking on this subject, and at the same time of his manner of writing, I shall translate the first article of his second section, which is entitled *De aquæ ferventis præstantiâ atque utilitate*.

"So many, and such great advantages," says he, "accrue to the soldiers, from the use of simple boiling water, (provided it is not faulty in other respects) and this heated water is so easily prepared, that all commanders should order a great kettle of water to be kept perpetually hot wherever there is a fire kindled for other purposes. This costs nothing; and without time or trouble, a soldier who has no fire of his own, may get a supply of hot water whenever he pleases. It is cheap, I say, for whenever a fire is made for a different purpose, the kettle of water may nevertheless be heated. When its incalculable excellence and utility shall be known, measures will be adopted by every discreet officer, that a supply of hot water shall be allowed to the soldier, once at least, or oftener in a day, unless there should be such occupation in camp as to render it necessary both for officer and soldier to omit the immediate care of their bodies. The consequence will be, that the soldier will be preserved from diseases, be kept healthy, and with a good countenance renew his visits to the cauldron for daily supplies of its contents.

"I omit the external employment of hot water, and say nothing of the numerous cases in which it was serviceable, and had the approbation of the ancients. I will, however, express my decided opinion, that the so much extolled effects of coffee, tea, and certain other articles, are in a great measure owing to the boiling or heated water with which

they are swallowed. This is rendered evident by the fact, that if coffee be chewed or eaten without water, it produces no exhilaration ; while a decoction of that very substance in hot water, has a fine enlivening operation. It is, at the same time, very remarkable, that a few table-spoons full of hot water, taken into the stomach, will produce a sensible rise of the spirits. I repeat that it must be hot water, for water merely warm will not produce such an effect. So chocolate, although in my judgment very good when taken alone, and in its dry state, is nevertheless much more efficacious when dissolved in water, and received hot into the stomach. Indeed, it must be owned, that the chief effect of chocolate is owing to the hot water ; a liquid which, without any addition, can rarefy the blood, enlarge the veins, render a man more lively, and make him more prompt to perform any given service.

“ In like manner, much of the effect produced by soup is properly ascribed to the heat contained in that kind of food, as it is commonly eaten. Flesh broths may often be hurtful when they are very strong and overcharged with gluten. This may be carried so far, that by pushing the evaporation far enough, there is nothing left but a mass of glue, with a portion of fat overspreading its surface. On this account it is that some physicians prescribe soups which contain but little fleshy substance. Some call them *long* broths ; and at Rome they are called *slippery* broths (*Brodi lisci*). They are nothing more than a large proportion of hot water, containing but a trifling quantity of animal matter derived from the flesh or other materials boiled in it. For the gluten, or that part of the flesh which is soluble in water, if taken by itself without water, in these cases for which hot water is adapted, may do more hurt than good.

“ Although I consider this an affair of important concern, I do not mean to extol hot water at the expense of every thing that may be cooked in it. Nor do I contend that the custom of the ancients ought to be renewed, who quenched their thirst and refreshed their bodies with water as hot as they could sip it. But I am serious in my opinion, that as soldiers cannot so readily procure hot things in camp as in garrison, they ought to make free use of hot water, which may be substituted for many things that may have been lately removed from the fire, and which have in them still a portion of heat. And since one man can prepare the in-

redients for a great number, its use involves neither an expenditure of money nor of time. Nevertheless, for the fuller information and convenience of the soldier, I shall arrange some of the benefits of hot water in an orderly manner; taking it for granted all the while that the water used for heating is pure.

1. "The hotter the water is, or, in other words, the higher its temperature when swallowed, the more efficaciously it quenches thirst.

2. "Hot water, taken in small quantities, as a few spoonfuls at a time, cures crudities and loads of the stomach.

3. "It also rarefies the blood, and renders the vessels more turgid; enabling the soldier to be more able and alert for business.

4. "Hot water, taken down as hot as can be borne, is a very powerful remedy for mitigating the greater part of inward pains.

5. "Hot water, taken in the same manner, penetrates every part of the body; whereby it is enabled to cherish, dilute, and resolve; and to diminish the power of morbid causes to produce diseases. It moderates whatever is excessive in the habit.

6. "Hot water taken at night, predisposes to sound sleep.

7. "If hot water is at hand, it enables wholesome food, in various ways, to be prepared in a very short time; at the same time it facilitates the preparation of medicated waters, which are very efficacious in removing diseases, as well as in maintaining health.

8. "Hot water is the most proper vehicle for many medicines, both of the preventative and curative kinds. For example, mint, marjoram, pennyroyal, pepper, nutmeg, cloves, balm, &c. the seeds of rue, laurel, fennel, and coriander, &c. the roots of liquorice, contrayerva, elecampane, and horse-radish; and saunders, tartar, senna, and many more remedies, are all of them frequently ordered in prescriptions. They might be exhibited in powder, but are inconvenient and unnecessary when hot water, the most fit and convenient vehicle for every one of them, is at hand.

"I have, however, offered enough for the present to recommend the excellence and employment of hot water. Further instructions for the use of it will be given in the ensuing chapters, wherein I shall treat of those *articles of*

a wholesome quality which are very easy to prepare for eating. Additional observations will be made under the head of *medicated waters.* And I caution all persons not to condemn any thing rashly, that I propose, but to go and satisfy themselves by experiments, in the first instance, of the solidity of my propositions."

This experienced writer, in the 3d chapter of his 3d section, renews the subject of hot water. He declares, "that if a *soldier*, in a cloudy or dewy atmosphere, takes crude and poor things, that are destitute of a good supply of fire, and its efficacious particles, and are in reality cold, and drinks cold water too, that man will soon fall sick. On the contrary, a man breathing that same cloudy and dewy air, may avert impending sickness by the following precautions: After his exposure to the atmosphere he must provide a dry place to lie in; he must rub with his hands, his head, front, mouth and neck; he must apply a few drops of distilled spirits to his nostrils; he must inspire air through his hands, closed together, after having been wetted with distilled spirits; he must take his meals as hot as he can swallow them; he must add to his pottage some aromatic, such as pennyroyal, thyme, or cinnamon; he must eat with his bread, a little spice of nutmeg, or small cuttings of the roots of cresses, or some similar article. The soldier who takes care of himself by these modes, will not be likely to become a tenant of the hospital."

That this author may be understood, I translate a part of that chapter wherein he relates the soldier's carelessness, and directs *what precautions a soldier should observe in relation to his sleeping.* (Page 121 and seq.)

"We learn from Galen and others, how it was an ancient medical opinion, that men had learned many excellent things from the lower animals. This is not merely probable, but in these our times, I hold it to be a fact, that most men may be exceedingly instructed by imitating brute animals; for daily these creatures perform many things that are of great use to them, by succouring the necessities of their nature, or guarding them against distempers. In each species, something peculiar may be observed; but in the greater part there is nearly the same solicitude as to the choice of a place for sleeping. They commonly find a place accommodated to the seasons of the year, to the wants of their own constitutions, and secure against rain, frost,

wind, and hunters. In this selection, they employ consummate art, without which they would never be able to survive many winters, but would speedily perish. Let any one observe the diligence of birds in building their nests, the geometrical skill of bees in constructing their comb, in which they sleep safe; make their nests, propagate their race, and store away their honey; and that observer may acknowledge, that birds, bees, and other animals are his superiors in many respects, and more especially in the selection of a proper sleeping place. It is of high importance towards the preservation of health and avoiding diseases, to have a place in which we may recline our heads, safe from all injuries. This is not difficult of discovery or preparation; for a large dwelling is by no means necessary to man. A cottage may suffice; a rude hamlet will do; or a cave can serve the purpose; or any thing will do that will shelter a man from rain, wind, and the more piercing rays of the sun; a narrow cell may serve the turn, such as the beasts themselves occupy, though they are not endowed with human ingenuity.

“And yet, I know not by what fate or supineness it happens, that man is frequently ignorant of his corporeal and mental powers, which, if he could improve as he ought, he would every where be as happy as his nature would permit. And to increase the misfortune, frequently at one and the same time, and by the same act of negligence and carelessness, he commits high offences against human and divine laws, and involves his fellows, his friends, his neighbours, and himself in one general ruin.

“Soldiers indeed commit frequent and manifold errors, contrary to the rules of war, and of health, in pitching and disposing their tents, and in choosing and fixing a sleeping place, so that it is not unusual for them to be cut off by the very sleep that would have refreshed them, had they enjoyed it in a proper place.

“One of them, for example, pitches his tent on one side of a hill, when, according to the rules of military and medical discipline, he should have fixed it on the other side; or even on the top of the hill, where the air is purer. Another, not observing the surrounding region, pitches his tent in a low place, where, during a fall of rain, all the waters collect, and undergo corruption in the marsh, or are included in a marsh. And if it should not rain, the enemy may perhaps

turn the adjacent streams upon the encampment, and he who has a bad position, may, if he is low, be floated with water, or, with his tent and every thing, be swept away by the current. Another shuts his tent on the side where the wholesome wind blows; and opens it on that which is exposed to the unwholesome breezes; when oftentimes, according to military rules, he might be better prepared both for an attack and defence, by doing just the opposite of what he does.

“ Another, again, does not so arrange his matters that he can open and shut his tent as he pleases, that he can enjoy the fresh air, that he can look round and observe what is passing, and that he can keep off the direct rays of the sun, or guard against a cloudy or dewy atmosphere.

“ Another does not stretch the cords of his tent as tight as they ought to be; whence it happens that there are cavities in which the rain may lodge, and leak through the tent, sometimes in the very spot where the soldier sleeps.

“ Another does not equally secure the opposite sides of his tent; in consequence of which, a gust of wind overturns it upon a neighbouring one. By this accident the sleeping soldier is oppressed, or left to pass the night without shelter, and under dangerous exposure to the clouds and damps of the atmosphere.

“ Another pitches his tent so high from the ground, that the air can penetrate it on every side, and neglects to close the opening by a vallon, fortifying it around, to keep away the mists and dews. He often omits to line the bottom of his tent with branches and leaves of trees, or bundles of straw. He may calculate that he is invulnerable to night-air from a few nights exposure without harm, in mild weather; but in the course of a week he will make an unwelcome discovery, that his constitution is heavily assailed, and even his life imminently endangered, by nocturnal fogs and cold. But though there should be neither fogs nor dews, the air is so constantly in motion, that the unceasing action of it upon the soldier's body will be very injurious to him. For in most countries of Europe, and particularly in Hungary, this very restless condition of the atmosphere instantly blows away, and brushes off the warm atmosphere which ought to invest the still sleeping soldier, and destroys him. And this accident, I suppose, is of less frequent occurrence, or does not happen at all in the regions situated near the equator.

“Another, when he might raise a mound, that he might protect himself against the enemy and the elements at once, does exactly the reverse, and heaps up the earth on the wrong side, and leaves himself open to attack from the foe, the winds, the fogs, and the dews. And these torments sometimes, through a faulty construction of the rampart, sweep through the soldier's tent like a torrent.”

The great bulwark of health to a sleeping soldier is the warm atmosphere of his own body. The great consideration is to keep this body of heat close in contact with his skin, and to prevent the removal of this comfortable covering, by winds, exposure, or otherwise. As long as a man can be kept snug in his own blanket of caloric, he will be comfortable and healthy. When that mass of circumambient caloric is subtracted, cold and disorder may be expected to ensue.

How shall the warm covering of his own atmosphere be secured to each individual soldier?

A good soldier will soon comprehend that the circumference of a body does not increase in the direct ratio of its capacity. For example, a circle twice the diameter of another circle, has not twice the circumference, but much less, in proportion. For the article which has a double periphery, has the dimensions of its area increased tenfold. Hence it follows, if four soldiers agree to enclose with a parapet wall a circle four times the area of a given circle, they will have to perform but half as much labour as would be necessary to surround the first circle with a rampart.

Take, by way of illustration, the cube A, twenty-seven times larger than the space B. The former will not therefore possess a surface twenty-seven times greater than the latter, but only nine times. It follows, if twenty-seven soldiers are to surround and protect from the air the cubic space A, equal to twenty-seven times B, the labour of each soldier will be equal to a third part of the labour which he would have to perform in protecting in like manner the space B.

In short, a good soldier will comprehend readily enough, that in similar plane surfaces, and most others, the lines of the perimeter have a ratio equal to the ratio of the homologous sides. But in like solid spaces, which are terminated by planes, and in most other cases of that sort, the superficial

extent is in a ratio equal to the square of the ratio of the homologous sides.

From these, and similar calculations, it may be understood, that these principles are misconceived or disregarded in practice, and that therefore soldiers are less defended than they ought to be against the atmosphere, as well as against the enemy.

The grand arcanum is to keep in contact with the soldier's body his own animal heat ; and the whole apparatus of bedding, tents, barracks, clothing, and fire, as far as heat is concerned, have this leading object in view. As far as these expedients have succeeded, it is well for the soldier and the service ; and in as much as they have failed or fallen short, rheumatisms, catarrhs, consumptions, fevers, and almost every fatal acute or chronic disease, have been the consequence.

Portio lays great stress upon the application of hot water to the preparation of food : by the assistance of that article, he affirms, that many sorts of food, exceedingly conducive to health, may be prepared in a moment, or the twinkling of an eye, as it were.

On the subject he lays down the following aphorisms for the soldier's instruction. (Part ii. chap. 2.)

1. " Let a soldier possess an allowance of bread and cheese, with good water, such as is drawn from a good well ; and let him use these things for his support a few days : I say, that in process of time, a man accustomed to hot things will readily become sick upon this diet.

" But if the soldier will cut to pieces his bread and cheese, and throw them into as much hot water as the bread will soak, and eat them all hot ; he may employ this diet for a long time, and he will not readily become diseased from that cause

2. " Suppose a soldier to possess bread, with hog's lard or beef suet ; and to make the case the more favourable, I shall suppose, that they have been carefully tried (to make them keep the longer), and that he has salt, and good water from an approved well or river into the bargain.

" If he persists in his kind of diet, I affirm that he may soon expect to be sick ; nor will this be prevented by trying the lard and suet.

" Yet if hot water be poured upon the ingredients, so as to melt the fat, and soften and rarefy the bread ; and the

whole is taken into the stomach hot, it is my judgment that a soldier will not be likely to grow sick upon such a ration, and such a mode of preparing it.

3. "The like may be observed, if instead of lard or suet, or goat-grease, or any thing of the kind, the soldier gets butter or fat oil. For with bread, salt, butter or oil, and a due proportion of hot water, he can prepare for himself excellent food, with very little expenditure either of money or time. While, on the other hand, the man who lives upon the same ingredients for several days, without heating the water, will be very apt to fall sick.

4. "It is frequently worth the while (particularly if the men have been exposed to a cold or cloudy air) to rub raw garlic upon the inside of a plate, then to lay sliced bread upon it; and then to pour on hot water in which some kind of fat has been melted, and eat the whole composition hot.

5. "To most of the ingredients before mentioned it is often important to add some powder of penny-roval, or marjoram, or thyme, or any other aromatic herb; such as the pounded seeds of dill, fennel, or coriander; any of which may be mixed with the pottage, as the soldier shall choose.

6. "If the powder of pepper, nutmeg, cloves, cinnamon, ginger, or the like be sprinkled over slices of bread, and hot water containing melted butter, or something of the sort, be poured thereon; the food so prepared will be much more agreeable, and greatly more wholesome, than that consumed by the general officer himself at head-quarters.

"Did but the poor and humble know how easily they might provide for themselves, and how vain and needless is almost all the dietetic apparatus of the rich, they would not complain as they do of the unjust distribution of nature's favours, nor would they envy the possessions of the wealthy.

I remember somewhere to have read how Epicurus thought the things employed by man were divisible into three classes. 1. Those which were both useful and necessary. 2. Those which though useful were not necessary. And, 3. Such as were neither useful nor necessary. It was the opinion of that great man, that things of the first class could be procured with very little exertion; those of the second, more difficult to provide; while those of the third, (such for instance as drinking out of golden cups, when glass, wood, or even the palm of the hand would answer,) are the hardest of all to procure. I have often observed that

rich folks, who possessed those articles which were useful without being necessary, or neither useful nor necessary, were unprovided with the other class, comprehending those which were both useful and necessary. And I have frequently observed, in a poor man's cottage, that almost every necessary of life was at hand; while the rich and lordly could scarcely get a drink of water to moisten a thirsty mouth, on account of the great number of servants who must in succession receive orders to go and fetch it; and the great man might perish for want of drink, while the parade and ceremony of getting it were going on."

I might give you an abstract of the method he recommends to obtain pure and wholesome water for drinking by filtration.

But I have probably written enough to draw your attention to this writer and his book, and that was all I intended.

I have the honour to renew the assurance of my high respect and consideration.

SAMUEL L. MITCHILL.

On the PATHOLOGICAL EFFECTS of DETONATION, or EXPLOSION of certain COMBUSTIBLE SUBSTANCES, such as GUNPOWDER and the like. By BARON DE PERCY, President of the Faculty of Medicine of Paris.

[Translated for the Medical Repository.]

IGNITION of gunpowder, whatever may be its quantity, never takes place without a degree of percussion and noise. One grain throws by its combustion one thousand times its bulk of gases, according to Robins and others; but Count Rumford sums up three or four times as much, in his calculation of different vapours expanded by heat in the combustion of gunpowder.

The sudden extrication of those gases and vapours in the firing of cannon, and their violent irruption in atmospheric air, produce a wind or blast which puts out lights and flambeaus placed at some distance. It also repels the arm or

the hand, which have been applied to the cannon. It shakes covered batteries, and throws down the cheeks of port-holes. And, in fine, it causes the most intrepid gunner to stagger, to be stupified or benumbed, leaving on the eyes a vivid suffusion of blood, as if they were in fact sprinkled with it.

A piece detonates with the more violence when it contains a greater charge, or when its projectile finds more resistance. Hence it is not difficult to discriminate an explosion of gunpowder only from that which throws a ball. In either case detonation is equally of great mischief. The 3, 6, and 8 pounders, the charge of which is that of a third weight of the ball, make a piercing and sharp detonation, which principally operates on the organs of hearing. It is a proper precaution to trust their management to young artillerists only, who can thereby habituate themselves gradually to the explosion of larger pieces. And these require selected men, at least not suspected of any weakness of chest or inability of nerves, with which they could not be protected against usual accidents in the service of small pieces of ordnance.

The 12, 16, and 24 pounders detonate with a so much more full and violent shock, that we permit our gunners, when unaccustomed, to put cotton in their ears; nevertheless, it is extremely imprudent for them to stand by large pieces when they are firing. They may be thrown down and receive all the dangerous effects of great commotion. The match-bearer alone must suffer the shock, as he cannot reach much distance from the detonating piece; yet, he may, by habit, inure himself to it. When we were besieging Dantzick, in 1808, I slept at a small distance from a battery of 24 pounders, which was unceasingly firing all night. During the two first nights I never closed my eyes. I slept a little during the third night, and was afterwards rarely disturbed. I have seen artillerists and other military men who could take a sound rest by the side of their pieces, and amidst the most tremendous and horrid noise. It is a wonder that any body could ever bear the explosion of those ancient culverins of Vienna, where we have seen them, and feel satisfied, that they could throw very far a 96 pound ball, being charged with 32 pounds of gunpowder. Most of them are brass, which adds still more vehemence to their detonation, for cast iron pieces do not resound half as much as the others. This is the reason why we prefer iron to brass cannon on board of ships, where they are intolerable; in our navy there

are but a few two or three-deckers that carry pieces of that metal, and in the upper batteries only.

Detonation from cast iron mouths is dull, and deadened by their thickness or want of elasticity in the metal. They do not however prevent seamen from suffering much during protracted engagements, especially if they are to leeward.

The late general in chief, Eblé, my respected friend, has had the curiosity to try those old cannon of leather that were found in the arsenal of Saltzburg, and which had been made for the use of the armies; they produced but feeble detonation; and so did the wooden swivels with which the Swiss distressed us so much on the lake of the four Cantons, when, proud of our liberty, we undertook to reform and disturb their own. The obtuse and deadened explosion of these singular machines could hardly be noticed. The fire of musquetry produces as it were a broken crackling, which makes no sensible impression. A thousand muskets fired at once, do not report as loudly as one cannon only. We also see that a soldier of the third file discharges his piece almost at the ear of the second, whom he hardly incommodes.

But mortars fatigue the most. Their piercing and tearing reports penetrate into the body, and shake the whole organized machine. Those called Galiotes, the chamber of which contains as much as 30 pounds of powder, and which throw the bomb more than three miles, effect such a report that I could not bear it at the distance of 200 (*pas*) yards. Yet our bombardiers fire them with the hand; but before Cadiz and Boulogne, I advised the match of communication.

Of those gigantic brazen Galiotes, which H. M. had ordered to be cast, of which the English have now some models, we saw that at each fire the artillerists remained sometimes stupified. They could neither hear or see, and seemed forgetful of themselves. Whoever was prompted by curiosity to approach and witness the operation of those colossal engines, never failed to suffer the same shock and subsequent stupor. There is another sort of cannon which I understand the Emperor has lately directed to be cast in Douay. They are for throwing a hollow ball 3 miles and a half.

Strong report from detonation, thus overpowering those bystanders who keep themselves too near the destructive machines, insensibly produces a sense of fatigue or debility difficult to relieve; the joints are painful, the motions of th

muscles are become stiffened; the head feels heavy, even the perceptions are slow, and the eye-sight is veiled; in fine, all animal economy is in sufferance. It has not been uncommon to see partial palsies and consumptive diseases originate from this kind of commotion, and ultimately degenerate into incurable complaints.

The greatest number however of morbid effects created by detonation are over in 24 or 48 hours; and after three or four trials of this kind, a cannonier of a good natural constitution feels inured to frequent and most tremendous explosions.

Ambrose Paré relates, "that when the arsenal of Paris exploded, in the year 1538, men were thrown down in every direction, and were *half dead*! Some lost their eye sight, and others their hearing; many also were found with their limbs torn off, as if they had been drawn by horses. All this was effected by the agitation of the air, into which substance the gunpowder had been converted." He adds, that he had witnessed the same results at Malines, in 1546, when the lightning sat fire to a large magazine. We must suppose that such violent effects are not altogether to be attributed to the power of detonation, unless it takes place within a certain reach, by which the sudden shock is sufficient to become destructive of many articles of brittle nature, as is evidently witnessed on board of ships, and in household furniture.

I am sure that the simultaneous report of four large mortars could not kill an ordinary man, but it would probably injure his health. I have several times tied dogs of all ages and sizes to the carriage of a mortar *galiote*. Detonation threw these, seemingly in fits of madness; others were lying down as if stunned and senseless, and all discharged blood from the throat or from the nostrils and the ears. We procured once a five months foal jack-ass for a similar experiment. He bore the two first discharges with no material inconvenience, while he amused us by his jumps and starts; at the third fire he fell prostrate, apparently suffocating, and convulsed. He discharged much blood from the throat, nostrils, and ears. All these beasts remained long in a languishing condition, but none perished.

Few gunners, in their first exercise, escape an attack of cephalalgia, more or less acute, which wears off in the night, and recommences next day, with the same cause. In

some instances, head-ache is followed by vomiting and some fever. I have seen also several young men, who, without the least sense of dread or terror, experienced an universal trembling, and were kept many days in a state of trepidation and palpitation, extremely troublesome. Among those who have experienced bleeding from the ear, many had the membrane of the drum of that organ broken open, for they could easily with a pipe in their mouth, admit the smoke through the eustachian tube into the ear. Frequent and violent commotions will however cause deafness; and Ambrose Paré testifies, that this is the most common infirmity of artillerists.

As the constant use of a wool or cotton pledget inserted into the meatus auditorius has proved very beneficial to the exposed gunners, some of them have thought to prevent bleeding of the nose (Epistaxis) by wearing a wooden elastic twizer, by which the nostrils are perfectly closed. For obvious reasons I think it also erroneous to conclude, that spitting of blood may be guarded against by closing the mouth, or biting something at the moment of the explosion; it is not indeed by a forced quantity of air pressed into the lungs that small vessels are burst, but it is unquestionably by the power of a general commotion in the organs that similar accidents are produced. From these facts it will appear obviously prudent to exclude from the service of artillery, young men who have a narrow and delicate chest; who have also experienced a previous attack of hæmoptysis; but much more severely those who are suspected to labour under any organic lesion of the chest; these would soon become victims of a rapid pulmonary complaint. In confirmation of this, how many we find among the old artillerists, who are subject to pectoral affections of asthma, dyspnoea, of chronic cough, &c. Persons subject to epileptic fits are still more unfit for that profession, even if it had been but accidentally and rarely that they have showed symptoms of that malady; with the best predisposition the evil would be immediately renewed, aggravated, and confirmed among repeated shocks of detonation. Those who have a plethoric habit, others who expose themselves to habitual and excessive use of wine and ardent liquors, should know that with weak organs, and much distended blood vessels, a greater share of pernicious effects awaits them amidst the incessant roaring of cannon.

At sea, the shock by detonation from a thousand brass or iron pieces, confused and uninterrupted, must prove dangerous and fatal to many. In the memorable battle which Duquesne gave to Ruyter, in the year 1676, near Strombolo, in the isle of Lipary, in which the Dutch admiral was obliged to keep a running fight, it has been supposed that the heavy ordnance on board the French fleet was fired forty thousand times, during the space of about eight hours. Such a tremendous uproar could not be long continued without material injury; for the thundering reports are by no means modified by the poisoning of vessels, nor in the least deadened by the mobile surface of waters. Their effects are re-echoed there in the same physical order and law, as any where else between heaven and earth; and the more so, as they proceed from a greater number of brazen mouths.

Cannoniers are not the only ones who have much to suffer from the detonation of artillery. The wounded and the sick are exposed to far more pernicious effects and dangerous shocks, however they were previously inured to detonation. What indeed can be more calculated to aggravate an intense head-ache, a pleuritic inflammation, or a pernicious phlegmasia, than the incessant roaring of guns over their head or about them? I have witnessed terrible consequences from it in different sieges, where our hospitals or ambulances were unavoidably fixed in the vicinity of batteries. Detonation vexes and disturbs them, deprives them of sleep, gives them subsultus tendinum, cramps, and convulsions. It induces also tetanus, and hæmorrhage. Ambrose Paré testifies, that in the fort of Hesdin, where he was during the siege by the Spaniards, in 1553, at each report of the cannon, the wounded soldiers experienced pain in their wounds, much like blows and strokes received upon them, and they would bleed more profusely than when they were inflicted.

In the siege of Dantzick we had no better spot for our wounded than the village of Langarten, about a mile's distance from the French. They were therefore excessively exposed to painful commotions of body and shocks in their wounds. Those who had lost a limb were constantly directing their hand to the stump, as to press it, and prevent involuntary startings or darting pains at each discharge of artillery, especially when they were to leeward.

I have never seen hæmorrhage caused by detonation after amputation. Our ligatures were too solid and carefully fixed ever to give way. We have always in view sudden removals, frequent transportations, and great distances to be overrun with speed and haste, for which accidental urgencies, we must all be prepared. Paré himself has not noticed that accident, therefore when it takes place, I am inclined to believe that it is the fault or carelessness of the surgeon.

I had often to deplore alterations, proving rapidly fatal in wounds of the head that were not absolutely of a mortal character. They were in a few days evidently aggravated by the power of detonation. Sharp and acute pains in the head or in the wound, which the patient would always cover with the hand, were the harbingers of worse results. Some were immediately taken with bleeding of the nose, or with vomiting; some had the singular symptoms of the convulsive mobility of the globe of the eyes, of neuralgic convulsions of the face, and of palsy of some extremities in the opposite side of the wound. Among all kinds of affections and accidents, one I must say never took place; it is that of tetanus or maxillary trismus, which no kind of wound in the head has ever presented to my observation. This is the more remarkable, as tetanus occurs so often after the smallest lesion of the upper or lower extremities. On wounded tetanic patients, detonation has an evident and pernicious influence, as we have witnessed during sieges in the neighbourhood of our batteries, when the surviving wounded are so frequently complicated with that symptom. If it is recollected, that it suffices sometimes to walk around the bed of those unfortunates, to shut a door, to speak loud, for an addition or aggravation of pain, and for renewing their shrieks or groanings, an idea may be formed of the excessive torture to which explosions of batteries expose them.

When a place or a house is to be fixed upon for a hospital during a siege, it is of no consequence which building or hut is preferred, provided it be that in which detonation has the least power upon the moveable articles or substances that are in it. To ascertain this, dispose upon a board, a table, or a bedstead, many glasses, or tumblers, more or less, close to each other, avoiding contact by their brim. Now the degree of clacking which at each firing of heavy ordnance they will produce, must be the criterion for your

selection. Empty bottles may equally serve for the experiment; from which it may be further determined in what story or apartment a man wounded on the head or in the lungs, or having a complicated fracture, or an amputated limb, may be best protected against detonation.

I have sometimes endeavoured to find out at what degree of detonation a confirmed deafness could be affected. I once made choice of a congenite case, and consequently dumb. I directed that he should fire one of my pieces doubly charged. He felt but little; yet, by his movements and gesticulations, it is certain that he experienced something new, for he would not repeat the experiment, showing signs that he had some pain in his head and arm.

Who would believe, that by exercise some young men have so successfully affected deafness, that a fire of musquetry exploding suddenly at their side, could not draw from them the least mark of fear or of surprise? I knew one however who betrayed himself at last, before his judges, at the sound of a small piece of money designedly dropped on his foot, while it was whispered in his hearing, that he was surely going to be discharged!

Vide Dictionnaire des Sciences Medicales, letter D.

R E V I E W.

NOSOLOGIA METHODICA, *Classium et Generum et Specierum et Varietatum series morborum exhibens.* Auctore JOANNE B. DAVIDGE, A. M. M. D. *Professore Institutorum seu Principiorum Medicinæ in Academiâ terræ Marianæ, &c.* Editio Secunda. Baltimoriensi. Sergeant Hall, 1813. 8vo.

WE sincerely regret that it is not in our power to exhibit to our readers this American production, either as a work of original ingenuity, or as a new stride towards medical improvement and utility. At the same time we tender our respects to the academic scholar and professional lover of science who has composed it.

Nosology remains yet a barren ground, and whoever has attempted to tread upon it, and to take it as a path leading to analytical principles of the healing art, or to the honour of being the best guide to medical institutes, seldom fails being soon replaced by another who claims the same authority, and leads through another way. This is the reason why so many respectable works on that subject adorn our libraries, and yet we cannot irrevocably assign a choice to one in preference to others. There we see the erudite and profound Sauvages, the philosophic Linnæus, the learned Vogel, the minute Sagar, the systematic Macbride, and the interesting Cullen. To the tables of this celebrated Nosologist, an eminent physician of this city has also subjoined his own, with a view no doubt of exercising the mind by comparison, to come at the most possibly perfect system of Nosology; and now we are favoured with the NOSOLOGIA TERRÆ MARIANÆ.

The lovers of natural philosophy must acknowledge how much easier it is to adopt systems of classification in all those branches, for which they are in possession of admir-

able nomenclatures, while the subject of human diseases has not been, after so many attempts, and probably will never be embraced by systematical arrangements. Substantial causes, and convincing reasons may be assigned for this difficulty. The objects of botany, of zoology; those of ornithology, mineralogy, &c. are the permanent works for nature, and each of them ordained to exist subordinate to her laws, in their respective forms and characters. But human diseases are only unnecessary and accidental modifications of our existence, the shocks and conflicts between the powers of life and the innumerable dangers which may assail it. In their forms and symptoms, diseases are diversified and subjected to the influence of age, constitution and climate; in their operation they are uncertain. Whatever means the ingenious nosologist can contrive to unveil a systematic classification, it proves after all nothing better than his own arbitrary mode of generalizing an innumerable list of diseases, which another, with as good a right, may alter or reverse at pleasure.

Let us add also, that if the *form* of diseases has been determined by some nosologists, as a sufficient criterion to fix their classifications, others have differed and assumed, for that purpose, their *operations* on the body as well as on the mind; and a third description have adopted a mixed system, either in their classes or genera; from which diversity and fluctuation of opinion, to ascertain the true principles of their science, we may readily conclude, how illusory the labour under consideration has been to their author, and perplexing to the novice in medicine.

But this arbitrary mode of classification in nosology is not the only circumstance to be regretted. We assert, that if by a common consent, only one system (no matter which) of classes, genera, and species of diseases had prevailed, we should be more certainly drawn into error by it. We would accredit false opinions in physiology, and retard our progress towards analytical pathology. To prove this assertion, we need but to remark, that both *form* and *operation* of diseases may, in the same subject of observation, originate from different and opposite causes. The intermitting fever is not always the result of marshy exhalations; the rheumatism, that of exposure to cold and moist atmosphere; nor the tetanus that of an injury in the tendinous extremities of the body; and phthisis itself is not always a proof of the

destruction or of the lesion of the lungs. On the other hand, the many and different diseases which a single cause can create, need not be doubted, if we recollect that a simple biliary concretion or mesenteric obstruction may cause dyspepsia, colic, hypochondria, convulsions, jaundice, cholera morbus, and madness.

If nosologists have thus assembled in their genera and species, diseases from opposite causes, or separated various effects from the same cause, do they not lead us into error, by assuming the *form* and *operation* of diseases, as the rule of their nomenclature? Do they not expose us to gross mistakes on the different nature of complaints, and of the various remedies they require?

Among the diseases under the sixth class of DEBILITATES by Sauvages, from the *cataract* down to *apoplexy*, many are defined to be *spasmodic* by celebrated physiologists; yet the same author includes in his class of SPASMI, those diseases which the best authority attributes to exhaustion and extreme debility, such as *tremor*, *palpitatio*, et *rigor*, &c.

In the third order (spasmi) of the NEUROSES by Cullen we read of *dyspnœa*, "sine angustia, et potius cum repletionis et infarctus in pectore sensu;" and the *pyrosis*, water-brash, "cum copia humoris aquei;" and the *colica pictorum*, "stercorea, a fecibus induratis, calculosa, verminosa, &c. et cholera, diarrhœa, diabetes."

Now, if all these diseases are *spasmodic*, it remains with us to inquire, whether antispasmodic remedies are properly adapted or indicated for the cure of any one of them? If not, that sort of nosology is therefore palpably calculated to lead the practitioner into error.

Professor Davidge has not certainly been more fortunate than his predecessors, when he arranged diseases according to their *forms*; for he has assembled still more astonishing dissimilitudes and contrasts of *forms* and *operations*.

In his class of the PYREXIÆ (feverous diseases) he makes two subsequent genera of the *gout* and *small-pox*. In that of the NEUROSES he places *hysteria*, with *hydrophobia*; in CACHEXIÆ he connects *syphilis*, *scurvy*, *chlorosis* or the virgin's disease, with *dropsy*, all as kindred genera. And under the class of VITIA we have *aneurism*, and *varix exostosis*, and *warts*, the *goitre*, and the *stone*, the *itch*, and *fractures*, *abortion*, and *barrenness*; in fine, *costiveness* with

amenorrhæa, all of them belonging to the class of organic diseases; although in the greater part of them there is neither defect nor lesion in the organs.

Another material disadvantage of nosologists is that of not having been able yet to mark a line between *diseases* and *symptoms of diseases*. To explain this, let us be permitted to observe, that any degree of alteration in animal or organic laws, which, in its unarrested progress, endangers life, is a state of body which, we admit, must be called a disease. Whatever may be the signs by which such a state is manifested, it must be granted, that these (pathognomonics excepted) are symptoms so far different from the disease, that by themselves they are not destructive of animal or organic life; and also that they eventually take place in other cases of complaint. This want of discrimination we will illustrate. In the 7th class of diseases, called *MOTORII* by Linnæus, we find the genus of the *morbi agitatorii*, to wit, *tremor*, *palpitatio*, *orgasmus*, *subsultus*, *hippos*, *rigor*, *convulsio*, &c. &c.

Now, are we not warranted in saying that these *supposed diseases* are only certain organic alterations, attending various *diseased* states of the human body, of which they are the signs or *symptoms*, and that nevertheless, by their duration they are not essentially nor necessarily destructive of organic life? If so, our position is true, to wit, that in the existing nosologies, symptoms are mistaken for diseases, or that there is no discrimination between the former and the latter. This unphilosophical adoption of symptoms for diseases, is far more conspicuous in the 4th class of the *VITIA*, by professor Davidge. He has indeed assembled in it a large number of organic alterations, which are only *symptomatic* of diseases, and could not by themselves constitute a state pernicious to life, such as *blindness*, *squinting*, *depraved taste*, *deafness*, *loss of voice*, *stuttering*, *wens*, *corns*, &c.

Another, and the last imperfection of nosologies which we must notice, is their general abuse of denominations of classes, and even of genera, frequently copied or imitated from one by the other, as by our most recent nosologist. In the 4th order of the *PYREXIÆ* of Cullen we meet, in the 37th genus, *hæmorrhagia* and *hæmoptysis*, immediately after this, with *PHTHISIS*, or pulmonary consumption. As far as common sense can submit to inferences from generic

characters to more specific ones, we must conclude, that this terrible and well known disorder is first begotten by an inflammatory fever, then hæmorrhage or spitting of blood takes place, and finally pulmonary consumption becomes confirmed. Let us now observe, that the facts are quite the reverse. Whatever remote or proximate cause we assign to consumption, it is anterior to *fever*, and *fever* is symptomatic of it. Hæmorrhage occasionally may precede it, and as often it is subsequent to it; it is not, however, essentially characteristic, as in far the greater number of instances it does not exist.

In one of our modern American nosologies, we are told of a 7th class of CACHEXIÆ, or diseases of bad habits and vicious disposition. The first genus is POLYSARCIA, that is, corpulence, fleshiness, obesity, which, in all degrees, is the reverse of the degeneracy of human fluids! In this class the author includes *hydrothorax*, a disease frequently contemporary to *pneumonia*, one of the PHLEGMASIÆ; and the *syphilis*, the *sibbens* (mal anglais,) two diseases eminently contagious and independent of any cachectic disposition. Further, in this class we do not find the *chlorosis*, which Hoffman and others had described as a true *cachexis*; nor is the same complaint even mentioned in the 5th class of SUPPRESSIONES, in which, by analogy to its true cause, it should have been naturally so well placed and described.

There appears to be but a few possible ways by which systems of nosology could promote medical philosophy. The one which has never been attempted, would be the connection of its nomenclature with principles of physiology, or with whatever physical laws in the human body constitute disease, when they are abolished or suspended. But if this mode is incompatible with the multiplied *forms* and operations of diseases of the same nature, or from the same cause, let us make an attempt to nomenclature from those circumstances and situations in life which are unquestionably very influential as remote or proximate causes of disease. The first class would therefore be that of the diseases of infancy and childhood; the second, those of puberty and mature age; and the third, of diseases in advanced and declining life; in each of which the *genera* might naturally be derived from the various systems of organic life, the *cutaneous*, *glandular*, *muscular*, *vascular*, *nervous*, and *osseous*.

There are diseases peculiarly resulting from occupations

and trades ; from climates and seasons ; these can make a range of non-naturalia, affecting the organs or vitiating the fluids, and would be included in the fourth class, under obvious discriminations, from the hamlet and cell of the poor, up to the gorgeous palace of the great ; from the inhabitants of the polar region, to those of the torrid zone. Epidemical diseases, as unusually generated under peculiar circumstances, endemic or pestilential, would compose an interesting collection for the fifth class. The last of all would embrace and complete the remaining part of all diseases, under three genera of organic defects or deformities, naturally or spontaneously formed ; first, internally ; second externally ; and third, accidentally ; all of them under the name of *VITIA*.

This nosological arrangement would not admit in its divisions and subdivisions any error arising from the variable-ness of *forms* or *operations* of disease, nor from symptoms descriptive of opposite causes of complaint. It would give at once to the practitioner a complete idea of all possible disorders which he may be called upon to relieve or to remove in every situation and climate. He would never be exposed to great labour of memory or perception, to recognise a disease by arbitrary systems, by an oppressive and unusual assemblage of classic names. He would be led, as it were, by the hand of nature itself, with the uniform experience of all ages, and of all enlightened men, to judge of diseases, according to persons, ages, constitutions, climates, and seasons.

We do not know that such a system of nosology has ever been thought of or recommended. We feel also that it might be presumptuous for us to assign to it a preference, in this cursory view which we have taken of the subject. We only wish it to be considered as one of the arguments which we thought best to illustrate the imperfections of our present systems of nosology. By any one of them the student would certainly be better instructed if it was simply transformed into a catalogue, in alphabetical order. For he would then escape the danger of erroneous theories, or of systematic inferences, all mysteriously imposed upon him to construe classes, genera, and species, before he can take the liberty of exercising his judgment upon a single case of complaint.

We must, nevertheless, express our unqualified approba-

tion for studies in general, which are the best devised in nosology, to impart an extensive knowledge of human diseases, and especially of their pathognomonic symptoms. The great and good Cullen had himself pointed out this substantial advantage. "De hâcce in historiis morborum redundantia, sæpè conquesti medicinam facientes, pathognomonic a quæ dicuntur, desiderarunt. Hoc est ut notentur symptomata ut ab illis solis, quisque morbus ab alio quovis illicò et certò dignoscatur."

Those pathognomonic symptoms, we are sorry to observe, have been much neglected or omitted in the *nosologia terræ marianæ*; the remarkable concise and abridged descriptions of which, are less recommendable, and more certainly defective. Omitting, however, the four classes, and the arrangement of this nosology, we must notice some *singularities* in it, hoping that they may be considered in future editions of the work.

1st. The yellow fever is defined *febris autumnalis*. This disease however has always broke out and raged in our cities during the summer months, and was rarely protracted to a few weeks after a change of the season,

2dly. The word *typhus* is translated to that of contagious.

3dly. Tooth-ache, *odontalgia*, is a *synocha mitior*.

4thly. The *gout* is described, without any mention of pain.

5thly. *Palsy* is palsy—of the nerves.

6thly. There is a *mania congenita* continuing from birth.

7thly. In *melancholia*, digestion is good; but it is depraved in *hypochondria*, a disease of *melancholic* constitutions.

8thly. The *tricoma*, or plaited hair, *plica polonica*, which we hope nobody has ever seen in North-America, is described without the peculiar oozing of sanies and blood from the hair.

9thly. *Dropsy* is said to be a soft tumor, inelastic, of a part or of the whole body.

10th. *Dropsy of the thorax*. Here it is difficult to know where the tumor lies, as nothing is said about it.

11th. *Rheumatism* is ascribed to the variableness of the weather.

12th. *Scurvy* is a disease of cold climates!

We have scarcely gone through the half of this work, but think it time to conclude, observing, that pages writ-

ten by a good Greek and Latin scholar should not appear with as many errors of translation or of orthography as to leave it doubtful, whether they are typographical only, or the effects of haste and neglect.

A remarkable idea is to be met with in the preface of this book, which we transcribe with pleasure.

“But we should be careful not to consider the errors and mistakes of the writers on nosology as imperfections in the science. If every system of science or morals is to be answerable for the follies of those who attempt to write them, what would be the fate of the noble and sacred system of christianity? The faults are not in the system, but in the commentators.”

We decline analysing the introduction of professor Davidge, which is no doubt the most interesting part of his performance, it being irrelevant to our province to interfere with any medical controversy beyond what is strictly elementary in the science of medicine. We must therefore only remark, that it consists of two parts; one on pathology, the other on nosology. They both contain argumentative strictures, in opposition to the opinions of the celebrated professor Rush. Were it a matter of curiosity for our readers to know what we think of the contest and of the respective weight of authorities, we beg leave to refer them to the sketch we have already given of the theories and opinions of that medical philosopher, in the first part of this volume, page 51.

We disapprove of the appellation *terræ marianæ*, adopted in the title-page of this work, as the Latin name of *Maryland*.

Because another name has already been used in the scientific world: vide Linnæus, for *Spigelia Marylandica*, *Hedysarum Marylandicum*. Our sister state may be properly called *Gens* or *Respublica Marylandica*.

Because it is not deemed correct in the Latin language to designate a civilized, populous, and well governed country by the name of *Terra*. This is used only for unexplored tracts, deserts, barren lands; *terra Magellanica*, *terra Australis*, *terra incognita*.

Because the word *Marianus* or *Mariana*, is not a derivative of the name of *Mary*, or of the Queen of England, who first gave a political existence to her colonial plantation.

Mariana is a ruined city of *Corsica*—*Marianas* are moun-

tains in Spain, and also islands in the ocean, otherwise called *Ladrones*. *John Marianus* was a celebrated Spanish Monk, and a political writer. Another was a Scotch divine. Another an Italian physician, and many others have existed of that name, which has nothing to do with that of Maryland, the land of Mary.

Vide Dictionary of Morery.

We object to the word *Baltimoriensi* at the end of the title page, unless it be joined to the word *civitate* or *urbe*; if it is an adjective (and so it is), it should not be left alone; or else it designates a district of that name, and not a city. But if a substantive, it should be declined at the ablative case, *Baltimoriense*.

The Topography of the United States has been, during seventeen years, particularly attended to by the Editors of the Medical Repository. The true and correct names of their states, cities, &c. are no less interesting to them than to their readers.

A plain elementary Explanation of the Nature and Cure of Diseases, predicated upon Facts and Experience; presenting a View of that train of thinking which led to the Invention of the Patent Portable Warm and Hot Bath. By SAMUEL H. JENNINGS. 8vo. pp. 90. Richmond. Ritchie & Trueheart. 1814.

LETTERS patent were obtained early in the year 1814, by the author of this tract, for a method of applying vapour to the surface of the human body. The gas was procured from ardent spirits on flame. It was conveyed through a pipe to the body of the patient. The sick person might sit on a chair, or lie on a bed, with sufficient covering to retain the heat, and keep the temperature of the bath as high as is intended.

There is a stove, it seems, to contain fire, a cup to contain the warm alcoholic spirit, and a tube to conduct the vapour issuing from the blaze to the cavity of the bed in which the patient lies. There it is distributed through every recess of the bed clothes and every part of the clothing of the sick,

and every pore and opening of the skin; producing an extensive heat over the surface by the application of the vapour that is brought to act upon it. This vapour, when formed in the apparatus, does not feel wet or moist; but water is copiously condensed as it cools.

The publication now before us is intended to state the intellectual process by which Mr. J. was enabled to make the discovery, that the steam of inflamed rum or whiskey was a grand remedy. He has ventured to explain some of the recondite conditions of the human frame. And if we are not mistaken, he has undertaken to give a theory of febrile and inflammatory action.

The author affirms himself to have been intimately conversant with fevers since the year 1806 & 7. He has attended very particularly to the cuticular surface. He has made a more than ordinary application of heat to that surface. The medium through which he has applied it has been chiefly the vapour of burning spirits. The vapour of boiling water has answered a valuable purpose when the patient could sit up to receive it. That however was frequently impossible. After various expedients the author was fortunate enough to hit upon the present plan of warming the skin. He says it may be put into operation in five minutes. The whole apparatus does not weigh three pounds, and may be carried in a large pocket or saddle bag. It does not require the aid of water, and may be administered to those who are in the most helpless and debilitated condition. In febrile cases of all sorts, the greatest service is rendered, as he says, by exciting the skin with external heat applied through the vapour-bath, on some occasions even to a painful degree.

Let us examine the real agent that produces such salutary effects. The chemists say that pure alcohol is a compound of carbone and hydrogen, with a small portion of aroma. Proof spirit is a mixture of alcohol with an equal part of water. And weaker spirits have of course a smaller proportion of alcohol in their composition. In other words they contain more water.

When brandy, gin, or distilled spirits of any kind are set on fire, the burning is accompanied by blaze. In highly rectified spirits, there is an alcoholic halitus or gas that often rises spontaneously, and takes fire at the approach of a candle. Dangerous fires of furniture and houses have ori-

ginated in this way. A sheet of paper, or a bank-note, for example, may be made the subject of an amusing and instructive experiment with distilled spirits. If the paper be dipped in the alcoholic liquid, brandy for example, and be exposed immediately to the flame of a lamp, the spirit will be volatilized and converted to a blaze, which will surround the paper or note on all sides. The flame will continue until the supply of detached hydrogen fails; and it will then cease. But the paper cannot be consumed. Its pores are filled with water, and thereby rendered proof against the enveloping flames. And the experiment shows, that ardent spirit, when strong enough to burn, does nevertheless contain a watery residue in abundance.

Let us leave this aqueous residue, and attend to the flame. This is chiefly a decomposition of alcohol, by means of atmospheric oxygen; for a portion of this latter material associates with the hydrogen, and forms water; while another portion of the oxygen combines with the carbone of the alcohol, and makes carbonic acid gas. The spirit thus is more than decomposed; it is, through a process wherein heat and light are evolved, converted into aqueous vapour and fixed air. These are the applications with which Mr. J. acts upon the surface of the human body. He modifies the heat, duration, and frequency, according to his judgment. It must be remembered too that there is a large quantity of atmospheric air.

There is no reason to suppose, from the facts before us, that carbonic acid produces any remedial effect by its action on the skin. Whatever may be its operation upon the lungs, stomach, nostrils, palate, or upon ulcers and gangrenes, it has but little sensible operation on the sound and unbroken skin. The remaining ingredient in the product of the inflamed alcohol, is an exhalation of the aerial kind, not indeed of that form and character which constitutes elastic steam, but of air so impregnated and rarefied by caloric, as to carry off much water in solution.

Heat thus applied to the external surface of the human body, in conjunction with the watery vapour and carbonic acid gas produced by blazing spirits, is the author's sovereign remedy for fevers.

We have heard, that long ago there was a popular remedy in rheumatisms and inflammatory ailments, which consisted of the vapours of burning rum, collected under a

cloak or blanket, and applied to the body of the patient sitting over the vessel containing the flaming spirit. But we have not learned that it was ever generally adopted by the people, or imitated by fashionable practisers.

The author of the pamphlet under consideration is confident that he has discovered a most important improvement in the prevention and removal of fevers. In this however he but resembles other sanguine inventors and projectors. The practice in fevers is exceedingly various; and every practiser boasts his success and his cures. By some it is deemed essential to excoriate the skin with blisters. Others draw the peccant blood from its vessels. Emetics and cathartics are the favourite remedies of others. Alkalies, sudorifics, antimonials, mercurials, and diluents, have each their partizans. And we never conversed with any person who was more certain of success than the famous Perkins, of curing fevers by his metallic tractors.

Alas! after all the specifics and applications, external and internal, that have been thought of, fevers boil within the vessels, and seeth the living solids with almost as much fatality as ever. The striking difference between the Hippocratic practice and the modern treatment of fevers is, that we do much more than the father of physic ever attempted; that we but too frequently overdo; and after all our doings, a great number of the sufferers by fevers, now as heretofore, sink under immedicable woes.

That the operation practised by our author may have been serviceable in many cases we entertain no doubt, nor have we any reason to disbelieve the statement that many others have recovered after its use. But when bleeding and purging, and wine and water, and proper medicines for the bowels, (page 89 and 90) are recommended as auxiliaries, there is good cause to suppose that it cannot overcome, unaided and alone, all the troublesome and dangerous symptoms of fever. The physician and the patient are, after all, very much in the same situation as they were before the vapour-bath was invented.

The present publication contains the author's opinions on the *modus operandi* of his remedy in preventing and removing fevers. He considers the skin as the great seat of impressions. The skin and subjacent cellular membrane he supposes to equal nearly one fourth of the soft solids. Cold may suspend the expenditure of about a quarter part of the

vital power produced by the brain. And this surplus accumulated upon the other and internal parts, may place the system in a state of predisposition to disease. This predisposition is best removed by the heat of his vapour-bath restoring the action of the skin, and equalizing excitement throughout the body. The most frequent of all the remote causes of predisposition is cold.

He examines the condition of the body as exposed to the heat of a common fire, to the solar influence during a summer's day, and to the vicissitudes of the seasons, and then takes a pleurisy as the simplest case of febrile commotion. Of this he undertakes to give a theory, or rational explanation of symptoms and incidents. From the case of pleurisy, he passes to that of an ordinary intermitting fever; and feels a strong persuasion that he has discovered a key for unlocking the long-hidden mysteries of a mode of disease which has been thought almost or altogether unaccountable.

In pursuing this investigation, he states his conviction, that disease is an *unit* (page 88), and his belief that truth itself is an *unit*. He might therefore be pronounced a *medical unitarian*; a member of a sect which professes to reduce medical investigation and prescription to the utmost simplicity, and, as we suppose, to render them *units* also.

Mr. J. next applies this unitarian doctrine to explain remitting fevers of every grade (page 30), and consoles himself that he has proposed an original system (preface, p. 5); that physicians will comprehend it at a single reading; and that he has furnished an easy and natural explanation of disease in any of its forms. In this comfortable conclusion the author concurs with other great men who have preceded him. Pitcairn is quoted for having said that he could calculate a remedy for every assignable disease. Brown said the stimulus must be but duly proportioned to the excitability, and thereby a due excitement be produced; and the trick was done. Darwin's laboured theory of fever is a performance which, he flattered himself, was to stand like a rock amidst the sea of ages.

And after all, what is this unity of disease? It is a very sophism; as great and imposing as that whereby Zeno laboured to demonstrate the impossibility of motion. If we understand any of the properties or relations of an unit, the unity is the sum or aggregate of all the subdivi-

sions, fractions, or parts belonging to an integer. Thus a man is an animal unit, consisting of the whole of his organs, limbs, and members. A husband and wife are a *matrimonial* unit. A husband, wife, and offspring are a *family* unit. A number of family units, make a *tribe* unit. And tribe units may be added together until they make the unit which constitutes a *nation*, a *quarter of the globe*, or the *grand unit* of the entire human race.

So in a physical sense, an atom is an unit. A grain of sand composed of such particles is an unit. A rock formed of such corpuscles is in like manner an unit. A stratum or formation of such rocks is an unit. The planet itself, in relation to the solar system, is an unit. And that grand and complicated system of primary and secondary orbs, is but unity in comparison of the other systems of the universe.

Unity then is any thing; it may mean an individual man, or the great human race; it may mean an atom, or an universe; it may mean the most trifling symptom, or the most intricate and complex disease.

And what, let us ask, is the meaning of that other dogma, affirming the unity of truth? Why, in reality, nothing better than the former. The eternity and immortality of truth is a branch of the old and exploded doctrine of universals. That doctrine had proselytes and supporters as late as the age of Roscelinus. But since the accomplished Abelard dissipated that delusion of the schools, mankind have generally thought more correctly on the subject. Edmund Burke has displayed the use and efficacy of words without distinct ideas, in the common intercourse of men by language; and proved that articulate sounds answer all the purposes of social and intellectual communication, independent of any real images excited in the mind. In this memorable controversy the *nominalists* have gained a complete victory over the realists. Yet a few have refused to surrender. Judge Monboddo has laboured hard to revive the doctrine of universals in his ancient metaphysics; a work, which, owing to the good sense of the age, is but little read, and still less commended. Professor Beattie wrote an essay on truth, in opposition to Hume and the sceptics. It is replete with the same sort of doctrine; and though it is reported to have gained for its author a pension, may be pronounced to be a most unedifying volume. What is truth? said Pilate, the Roman governor of Judæa, and went away

without receiving an answer. Was that magistrate here, and capable of reading the "winged words" (Diversions of Purley) of Horne Tooke, he might be correctly informed. Truth, as that most able philologist has shown, is that judgment which a person believes to be correct. In other words, a man's solemn opinion on a subject, according to the best of his knowledge and belief, is *his truth*, or, according to the old term, *his troth*. And if he speaks conscientiously, and according to the best of his understanding, although he be mistaken, he is notwithstanding a *true* witness. Truth may therefore vary; inasmuch as it depends upon the sincerity of the person who testifies, and not upon any metaphysical or abstract notion.

The evidence in a trial before a court may be contradictory, and clash in every material point; and yet there will be no perjury, when each person examined delivers his testimony in an honest, scrupulous, and reverent manner. Every witness in such case speaks his truth; and though it differs from that of his neighbour, it is nevertheless, truth. And so right reason, and law, the offspring of right reason, have decided it. In searching therefore for the standard of truth, we can inform the seekers that they will find it in the same recess where the standards of taste, and beauty, and fashion lie concealed. Truth, indeed, is as various as the opinions of men, while free from deceit, mischief, or sinister interest.

We might beg pardon of our readers for having written so many lines on the present performance. It seemed to be due to the subject, to give it somewhat of a critical discussion. This we have done, so far at least as to show our utter repugnance to the medical and moral unities which the author has adopted. We shall add no more on a pamphlet, in many respects ingenious, and interesting in its matter, which seems written to explain and recommend the apparatus for applying the vapour of burning spirits to the human skin. We request those who feel a concern for further information, to peruse for themselves the original publication.

Medical & Surgical Correspondence.



A Case of Epilepsy cured by Saccharum Saturni: communicated by John Eberle, M. D. of Manchester, Lancaster County, Pennsylvania.

ON the 10th of August, 1811, H. Mumma, aged twenty-two, made application to me for medical aid in an epileptic affection, which he informed me had afflicted him for eight years past. The account he gave me of its first invasion was, that in the fourteenth year of his age he went to his room one night without a candle, in order to go to bed. On opening the bed, a large dog, who had taken up comfortable quarters in it, suddenly, with a loud howl, jumped out of the bed, and threw the patient into a violent fit of terror, which, in a short time, brought on an attack of the most violent convulsion. From this time he was regularly taken with a fit of convulsion at each *period of full moon*. It generally came on during sleep; and mostly continued alternating with intervals of apparent ease for five or six hours. His mind did not seem to have sustained any injury from the repeated attacks of this formidable disease. His pulse was full, hard, and slow—great habitual costiveness; of a robust frame of body, and a plethoric habit.

The common remedies were first used, such as the *cuprum ammoniacum*, the sulphate of zinc, stramonium, valerian, &c. but ineffectually. As I had heard that the late Dr. Rush had mentioned in his lectures, that he had used the *saccharum saturni* successfully in a case of epilepsy in the Pennsylvania hospital, I determined to give that medicine a trial.

I accordingly put up ten powders of the acetate of lead (iii. gr. in each,) and directed my patient to take one every morning and evening, (commencing three days before the time of full moon,) and to continue taking them until they were all taken. I also ordered him to take a table-spoon-full of the best olive oil, every morning and evening during the

time he took the lead. This I did in order to obviate any evil effects that might have arisen from the exhibition of so much of this powerful preparation.

From the first exhibition of the remedy, the disease never returned. He however continued to use the medicine for five successive periods of full moon, in order more effectually to break through the former morbid habits of his system. He now enjoys perfect health; nor did he experience any ill effects from the lead, during the time he took it, except some slight cholic pains a few days after he had taken the last dose.

The acetate of lead appears to be more peculiarly suited to those cases which return regularly, and which are accompanied with a sthenic diathesis. In a subsequent trial, a case of the same kind, I found the *saccharum saturni* ineffectual. In this patient, however, the disease recurred irregularly, and was moreover attended with a weak and irritable state of body.

Whether the sugar of lead is as deleterious in its effects upon the animal body as is commonly believed by physicians, I think doubtful. Experience evinces that it may be administered in large and frequent doses, without doing any injury. It is unquestionably a powerful medicine, and, like all other powerful and valuable articles of the *materia medica*, it may become both a bane and an antidote to man, as it is properly or improperly dealt with.

I will not enter into any speculations concerning the *modus operandi* of *saccharum saturni*. We know, to be sure, from the experiments of Dr. Semmes* and Dr. Klapp,† that the medicine raises the pulse. But this teaches us nothing. Upon the *modus operandi* of medicines, we may argue plausibly indeed. But it has always appeared to me to be a mysterious region, where genius may wander and waste its strength in vain.

REMARKS.

From this authentic case, and from others with which we now remind our readers, the inference is, that lead may be rendered a valuable remedy in *materia medica*. It will

* Dr. Semmes' Inaugural Dissertation on the *Saccharum Saturni*, Phil delphia.

† Dr. Klapp's Experiments on *Saccharum Saturni*, Cox's Medical Museum.

be recollected that in our 9th volume, page 34, a case is narrated by Dr. Agnew, of Pennsylvania, of the efficacy of saccharum saturni in epilepsv, with merely some difference in the mode of exhibition. We have had it further ascertained, that in another kind of nervous and convulsive diseases, such as *hysteria* and *chorea* of young persons, the acetate of lead had been a radical remedy, and for this we have a full reliance in the testimony of Dr. Aaron C. Willey, of Block-Island. (Vide vol. ix. page 266.) By another communication of Dr. Thomas Ewell, we are informed that a variety of cases of hæmorrhage and inflammation, observed by several eminent physicians, have yielded to lead. (Vide vol. 9, page 249). Facts of the same import and authority may be read in vol. ix. page 53.

From our own experience, some other convincing proofs might be adduced, of the curative power of this metallic substance. We will close, however, our remarks, with one only, that of an infant most surprisingly rescued from an advanced stage of abdominal inflammation and impending death, by a large dose of saccharum saturni mistakenly given by the mother, just as she had dissolved it to wash a sore leg of another person ! With this encouraging mass of testimony, we confess we do not feel sufficiently warranted to overlook the deleterious and well known qualities of lead. If it has been harmless in so many instances, it was no doubt owing to some circumstance of disease, or of the mode of exhibition with auxiliary remedies, which are not ascertained. That a correct acquaintance with them is a great desideratum, and that it well deserves the attention and experimental ingenuity of many more practitioners, we need not urge. We hope the point will be conceded, and held in useful remembrance.

An interesting Case of Croup in an adult Man, in which Tracheotomy was performed, so as to prolong Life, but not to effect a Cure : with a Description of the Appearances and Dissection, drawn up by James C. Bliss, House Surgeon to the New-York Hospital, at the request of William Hamersley, M. D. the attending Physician, and communicated to the Editors.

William Potter, aged twenty-eight years, a seaman, was admitted into the New-York Hospital on the 29th December, 1814, with a fever of remitting type. His skin

of a yellow colour, and bowels constipated. He had also slight catarrhal symptoms, with some soreness of the throat.

He was convalescing from his fever, when, on the evening of the 13th of January, whilst visiting the ward, the patient complained of a sore throat, hoarseness, and cough. The circumstance, however, of his having before had an affection of the throat, did not give rise to any particular alarm on the appearance of these symptoms.

The next morning the house-physician, Mr. Helme, being confined to his bed by illness, I was requested to see him.

He complained of extreme difficulty of breathing, and had the peculiar wheezing and cough of croup. The voice was remarkably shrill, and it was with great difficulty he could articulate. He referred as the seat of his distress to the larynx. The fauces were slightly inflamed, but deglutition was performed with very little difficulty. The pulse was frequent and full, but not corded. The skin hot, and tongue covered with a white fur. The face rather flushed.

His symptoms appearing so exceedingly urgent, the jugular vein was opened, and about 20 ounces of blood drawn. An emetic was given, with a view of vomiting him; and although the patient took to the amount of three drachms of ipecacuanha, and twenty grains of emetic tartar, in divided doses; and notwithstanding mechanical irritation of the fauces was repeatedly employed, very little vomiting was produced.

Little more was ejected than the drinks which he had taken to quicken the operation of the emetic medicine. The operation of vomiting, however, had the effect of producing a moist state of the skin, and of rendering the respiration rather less difficult. After this, a piece of flannel, dipped in warm aqua ammoniæ, was applied to the anterior part of the throat, which soon caused vesication of the skin. The patient was also directed to inhale the vapour of hot vinegar and water.

About 11 o'clock the emetic medicine produced several very free evacuations from the bowels; the pulse at this time was very much reduced in force; the difficulty of breathing, however, was in no way relieved, but exceedingly distressing to witness. At this time a large epispastic was applied to the upper part of the chest.

Between 12 and 1 o'clock I was again summoned to the ward, and found the patient apparently in the agonies of death. The respiration horridly difficult; the countenance livid, and the eyes, as it were, starting from their sockets. This paroxysm increased till the patient was seized with convulsions. The pulse at the wrists ceased to beat, and the respiration was momentarily suspended. From this state he recovered in a slight degree. At this time the operation of tracheotomy was proposed, and the assent of Dr. Hamersley, the attending physician, having been obtained, I immediately performed it, being assisted by Mr. Inderwick, of the U. S. navy. During the operation the patient had another violent paroxysm of difficult respiration, and, to the by-standers, appeared to be dying. A gum-elastic tube was introduced into the opening, and after the blood which had escaped from the wound, had been thrown from the trachea, the patient breathed with tolerable ease.

It became necessary, several times in the course of the afternoon, to remove the tube and introduce a fresh one, on account of its becoming obstructed by the mucus excreted from the trachea.

A decoction of seneka was now directed for the patient. But every attempt at swallowing was followed by a fit of coughing, and his drinks appeared to find their way into the trachea. On examination of the throat it appeared that the epiglottis was thrown back towards the root of the tongue, so that the larynx was not perfectly closed in the act of deglutition.

The patient, at times, breathed with considerable ease through the afternoon and evening; at other times, from the mucus becoming accumulated, the respiration was rendered more difficult, till relieved by a fit of coughing. In the fore part of the evening a vapour bath was employed for his relief. But although the operation had evidently prolonged his existence, yet it appeared that the disease was not subdued, and we were doomed to witness the inefficacy of our remedies.

The patient expired about 15 minutes after 10 o'clock in the evening.

On dissection it was observed, that beneath the muscles covering the larynx there was a slight effusion of coagulable lymph. The upper part of the pharynx and the fauces exhibited traces of inflammation. The epiglottis gave evidence

of having been highly inflamed. Beneath the membrane covering this part, on either side, there was a considerable effusion of serum and lymph in distinct cavities or sacs.

This effusion was so considerable as to revert the epiglottis, and prevent its closing the glottis.

This part, as well as other parts of the larynx, was covered on its internal surface by a number of dark-coloured spots, which gave it a mottled appearance.

The whole of the larynx and trachea showed a high degree of inflammation on their internal surfaces. The mucous membrane lining this passage was remarkably thickened, and beneath it there was a very considerable effusion. So considerable was this thickened state of the membrane, and the effusion beneath, that the rima glottidis was almost completely closed.

This circumstance probably gave rise to the symptoms of suffocation, which occurred previous to the operation having been performed.

Besides these appearances, there was a considerable quantity of tenacious mucus adhering to the inner surface of the wind-pipe, throughout its course.

REMARKS.

The *Croup* in adults is a rare disease, unless this name be given to topical and seated inflammation of the larynx. In this instance it did extend down the trachea much below the rings which were operated upon, and truly constituted a pathognomonic symptom of the croup.

In this impending danger, we greatly approve of tracheotomy, which would have been a means of recovery, had not such a quantity of tenacious mucus obstructed the trachea.

Mons. C. F. Caron, an eminent surgeon in France, has proposed and defended tracheotomy in all cases of croup which would not yield to inspiration of ammoniacal gas. His opinion, and the arguments of his antagonists, we have stated in our preceding volume, page 97. We thought then, as we believe now, that we were in possession of effectual remedies enough to counteract the croup, without having recourse to the operation. It becomes, however, a desirable expedient in desperate cases, to prolong life for some hours, by an operation free from difficulty and danger.

Emetics in Pleurisy, Pneumonia, and Convulsions. By Dr. Cornelius Camden Blatchly, New-York.

Emetics in inflammation of the breast are interdicted by all writers, as far as I have seen. Their utility has been sufficiently tested by the long practice of my three brothers, two nephews, and myself, to prove the fears of writers on this subject to be wholly improper.

Dr. Fothergill prohibits emetics in pleurisy, hepatitis, and topical inflammations. (Vide page 59, de emeticorum usu).

Dr. Tissot says, "vomiting and purging are directly contrary to the nature of an inflammation of the breast, (or peripneumony), and pleurisy is to be treated exactly like a peripneumony."

Dr. Cullen was of opinion that full vomiting is a dangerous practice; and he disapproved of cathartics; laxatives, however, he found to be useful.

But it is unnecessary to mention the opinion of authors, who have drawn their ideas more from theory than practice. I am certain of the utility of emetics in pleurisy, pneumonia, and topical inflammations. Next to venesection, I know not a better remedy than an emetic in many of the plegmasiæ.

My brother, Ebenezer Blatchly, commenced the practice of vomiting in pleurisy, after blood letting, during the revolutionary war, and continued to practice it for 35 years successively. Immediately after bleeding from a large orifice, till the pain of respiration was mitigated, he often found it necessary to put a dose of tartarized antimony in a dose of salts, and thus conceal from the patient and friends the intention of vomiting; for they mostly apprehended a vomit would kill persons having such a pain in the chest. In this they were wrong. The nausea preceding vomition so relaxes the system, and determines the blood to the surface; so opens the cutaneous pores, and reduces the impetus of circulation; and so strongly acts on the nerves of the stomach, translating the excitement to another part, as to let the patient vomit, without hurting him, and to afford him great relief and benefit. If a blister is good by translating excitement, so is an emetic; and much more so, from its greater evacuation and tendency to unlock the pores and

carry off the fluids retained by the stoppage of perspiration, which is the usual cause of all inflammatory complaints.

If the emetic does not operate as a cathartic, administer a dose of sulphas sodæ. If this does not remove the pain in the course of six or eight hours, bleed again, repeat the emetic, and apply the blistering plaster to the part pained. If an emetic is not used, a saline purge should be given; or if the patient is weakly, and not severely affected, give some refrigerant febrifuge powder, composed of 10 grs. of the nitrate of potash, and $\frac{1}{2}$ or $\frac{1}{2}$ gr. of tartarized antimony, every two hours. Purges do not injure.

Such has been our mode of practice for many years, with great success. Bleed freely—vomit freely—and blister early.

It is not necessary to enlarge this article by cases; yet as the following one shows how venesection in fever may produce pleurisy, I will notice it.

CASE.

2d month, 2d day, 1799, I visited Samuel Jennings, of Roxbury, Morris County, New-Jersey, a lad, sixteen years old, and of a healthy habit.

Symptoms. Head-ach; fever; tense pulse; dry skin, &c. M. M. Venesection, followed by a dose of sulphas sodæ, and nitras potassæ and tartarized antimony, every two hours after the cathartic.

3d day. Administered an emetic, and continued the powders, and low diet.

4th day of the month. Continued the powder, abstinence, &c.

5th. Pleurisy now appeared. Bled, vomited, and purged him.

6th. He was greatly relieved. Gave him spt. nitri dulcis as a febrifuge.

7th. Applied epispastics to his legs, &c.

After the 7th, being debilitated, and sweating profusely, he was cured, by the adhibition of small doses of cinchona, before the 12th of the same month.

In the convulsions of children, I have found no medicine equal to emetics for removing the fits.

In epilepsy I pour down a solution of tartarized antimony, open a vein before it can operate, and then lay an epispastic between the shoulders.

The instant the emetic begins to nauseate, and the person vomits, it relaxes and removes the paroxysm; it will even unlock the jaw in tetanus. Here it unloads the stomach, intestines, and system.

The convulsions of children seem most frequently to arise from their being over-fed, or fed with improper aliment. The consequences resulting, are plethora, hydrocephalus internus, costiveness, worms, indigestion, acidities, flatulence, griping, diarrhœa, green clouts, fever, irritation, fits. Dentition increases the irritation of the system, and the disposition to convulsions.

With the emetic I introduce a new stimulus, by applying an epispastic plaster between the shoulders, endeavouring at the same time to discover and remove all occasional causes.

I am pleased to add this testimony in corroboration of that of Dr. Mease, in the Domestic Encyclopedia, article Convulsion.

Being requested by C. C. Blatchly to state our treatment of pleurisy and pneumonia, we do hereby certify, that our usual and successful mode of practice, is to give an emetic a few minutes previous to bleeding the patient, so that it may operate about the time, or shortly after blood-letting; the vomition is thus made easy, and prevents cramp or pain, and turgescence of blood in the vessels of the head and thorax; after this, give tartarized antimony in smaller doses, that it may operate as a cathartic. Omit its use whilst it acts as a cathartic. Again commence with small doses, until it causes a nausea and perspiration, which is to be kept up during the inflammatory action. Blisters and the common mode of treatment follow.

E. B. WOODRUFF.

ABSALOM WOODRUFF.

EBENR. S. BLATCHLY.

REMARKS.

With all possible deference to our friends and correspondents, whose instructive papers we now insert, we offer some exception to the implicit recommendation of emetics

in pleuritis and pneumonia, which however do not invalidate their observations, nor the authority of their facts. It may not be irrelevant indeed to inquire why the operation of emetics has been guarded against in those diseases? It was no doubt to avoid the danger of increasing the morbid action and influx in the blood vessels of the organs of respiration, and of exposing them to distention and hæmorrhage, as this effect is frequently spontaneous, in the latter principally; moreover, it being difficult to ascertain at what degree of inflammation a vomit might or might not be pernicious, it remains important to avert a very aggravating symptom. That emetics have proved highly beneficial, is owing chiefly to the salutary diaphoresis always effected by antimonial remedies and other kinds of pukes. A safe rule, therefore, to decide the utility of emetics in pulmonic inflammations should be derived from the characteristic *asthenia*, with which they are frequently connected, to constitute a spurious pleuritis or PERIPNEUMONIA NOTHA. The latter has been epidemical throughout the United States during three winters. In this disease, debility and effusion were universally relieved by the early administration of emetics, (vide page 227,) without danger of hæmorrhage.

The same caution and doctrine, we are happy to find, are distinctly advocated in the recent practical treatises of Wilson and Thomas.

Cases of Varicose Veins, by Samuel Akerly, Hospital Surgeon U. S. Army.

The four cases of varicose veins mentioned in the preceding number of the Medical Repository, page 306, have terminated in confirmation of the suspicion that the method of tying the vein and removing the ligature soon after to cure the disease, is ineffectual. The following has been the result of the cases above referred to.

1st. The veins on the anterior part of the leg and instep of the foot very large, and the ramifications numerous. An indolent ulcer on the shin of several years standing. The ligature applied on the saphena major, just below the knee on the inner side, and removed in seven minutes. Dress-

ing of the wound, simply accompanied by a roller bandage over the whole leg. Wound healed kindly; ulcer on the shin no ways improved; the enlarged veins appeared somewhat diminished, but again became as large as ever.

2. The veins on the anterior leg less prominent than in the preceding case; ulcer on the shin also less. On the calf of the leg the distention of the vein (a branch of the saphena minor) into one bag was nearly as large in circumference as a tea-cup, though not so prominent. The ligature applied on the saphena major above the knee, and removed in ten minutes. Simple dressings and a roller bandage applied. The effect was not permanent; the ulcer on the shin remained; and the disease of the veins continued with little or no alteration.

3. The veins prominent, principally on the anterior part of the leg; a small ulcer near the ankle. Ulcer healed by attention to dressings and bandages to the legs, but the veins continued the same, no operation being performed.

About a year following, the same patient returned to the hospital, with an ulcer on the shin, and the veins much larger, and more numerous, extending up to the thigh. The ligature applied on the vein about half way between the knee and groin, and continued on seventeen minutes. Seventeen days afterwards ligatures were applied in two places on the saphena major below the knee, and were not removed under half an hour. These several operations appeared to produce some benefit at first, but the only result was the healing of the ulcer on the shin; and when the wounds from the operation were closed, the disease of the veins was unabated, though assisted as in the foregoing cases by bandages.

4. Disease of the veins about twenty years standing, and first occasioned by the wound of a pointed instrument near the knee. Ramifications of the veins numerous, large, and very superficial, with many spiculæ of ossification in them: no ulcer on the leg, which is enlarged, particularly about the ankle. Ligature applied above the knee, and retained fifteen minutes. Between two and three weeks following, another ligature below the knee was kept on twenty-five minutes. Pasteboard applied to the limb, and a roller over that and the dressings. Result was a diminution of the size of the leg, and a removal of several of the spiculæ of ossific matter, with a lessening of others. The veins however con-

tinued prominent, and the disease so apparent that the patient after this treatment could not be passed as a sound recruit.

These cases were in four intemperate soldiers, all of long standing. In two of them the ulcers on the leg were large and indolent; and in the third small, the effect of abrasion on the diseased leg. The fourth had no ulcer. No serious or alarming symptoms followed the operations. The two first were operated upon standing, and fainted from fear more than any thing else: the others lying in bed. They all appeared somewhat relieved, but that relief was not great or permanent.

Extraordinary Disease and Tumors of the Scalp.

Rud Barnum, a boy of about 14 years, a native of Massachusetts, was received December. 1813, in the City Hospital, with a number of large tumors on the scalp. They were of four or five years standing, and were reported to have gradually succeeded to an injury, occasioned by a person falling from a height, and striking with his heel the head of the patient. At the time of his admission, he enjoyed general good health, and his habit of body was strong; although several operations had been performed for the extirpation of the tumors, one of which, when removed, weighed twenty ounces. The largest of them was twelve inches in circumference, and projected nearly three inches from the cranium to its apex, but somewhat of a knotty surface, and ulcerated on the top. There was another tumor a little distance from this last, which measured nine inches in circumference. Besides these, and at different parts of the scalp, he had tumors of a smaller size, which were not ulcerated, but they had been originating apparently, and formed in the substance of the scalp; on some parts of them the hairy cuticle had not been altered. These organized masses, considered in their external covering, appeared exceedingly vascular, and their superficial and much dilated blood vessels bled upon the slightest violence being applied. When an attempt was once made to remove one of the tumors by means of a ligature, the resistance of the diseased part was so slight, that, by pressure, it cut its way through, and the patient was immediately deluged with blood. The knife was then resorted to, and the blood was stopped by sponges and compresses.

In January, 1814, the large tumor was operated upon by

one of the attending Surgeons, who severed it from the surface of the cranium, embracing with it the investing diseased scalp. The hæmorrhage was profuse, and required six considerable arteries to be secured by the needle. Two of them issued from the osseous table, and entered the base of the tumor. Many smaller vessels were still pouring so much that it was necessary to interpose sponges and to use compression.

Since the operation was performed, four other tumors of considerable magnitude have been removed. But when a small portion of the diseased substance has been left by the knife, it has shot up another fungus, which, with great difficulty, could be removed by strong caustic; the corrosive sublimate, for instance, concentrated in a solution of muriat of ammonia, has produced the singular and probably sympathetic effect of incessant and oppressive puking. The bone laid bare by the operation beneath these tumors has been found perfectly sound, except in the instance of the tumor lately extirpated on the left hemisphere, which offered a considerable roughness and state of caries.

The tumors were, on examination, of a soft and tender texture, very easy to lacerate; they had a medullary appearance, with an intermixture of fat. Their vascularity was remarkable; two or three had a cavity in their centre, which seemed to have previously contained blood. Many technical or *fashionable* names are not wanting to designate the above disease or tumors; the singularity of which precludes however any kind of hasty speculation, if it should appear that the whole scalp of this boy must successively be abraded to destroy the germ of these excrescences or organized tumors. The state of the young patient is actually very hopeful. We will look to the termination of the case for a more satisfactory and pathological dissertation.*

* *Atheroma, Meliceris, Sarcoma, Steatoma, Apostema, Osteo-Sarcoma. Bursa mucosa, Exostosis, Spina Ventosa, Fungus Hæmatodes, &c.* These are some of the generic names of different kinds of tumors. They are significant and classically derived. But in fact a tumor is frequently designated by one name exclusive of its complication of nature or characters. In the above case, some think the tumors are *Osteo-Sarcoma*, and others are inclined for the *Fungus Hæmatodes*. Now we could give sound reason why neither is proper nor applicable. Firstly, these tumors are neither connected with, nor produced by diseased bones; and, secondly, they are not, as a *Fungus Hæmatodes* should be, a bare excrescence without involucre, and which bleeds. Others, however, will fix upon a definition, without relation to the name. A recent publication states, that a large and encysted tumor on the shoulder and diseased humerus, which did not bleed, was a *Fungus Hæmatodes*. (Vide New-England Journal, vol. iii. page 4.)

NATURAL HISTORY.

Additional Proof in favour of the Existence of huge Animals in the Ocean, different from Whales, and larger than they. In a Letter from Samuel L. Mitchill, to John Fothergill Waterhouse, M. D. of Philadelphia, dated New-York, July 17, 1814. (Vide Plate, Vol. i. New Series, page 398).

DEAR SIR,

IT is now more than a year since I addressed to Baron Lescallier, a letter on the Sepias and Krakens of the deep. It was read before the class of Natural History, and afterwards printed in the 15th volume of the Medical Repository. (Vol. i. New Series, page 396—406.) I think it contains a powerful body of testimony to show the existence of enormous creatures in the sea, differing in their forms and manners from whales, and frequently exceeding them in bulk.

Since the publication of that collection of evidence, I have received further information on the subject.

A commander of a ship with whom I am particularly acquainted, performed a voyage from New-York to Canton in 1809. Being outward bound during the month of September, he steered from the Cape of Good Hope towards Kerguelen's Land. In the latitude of about 41° south, the man in the fore-top cried out that there was a rock ahead, distant about a league. A lump or mass was distinguished in the direction the vessel was then going, directly forward, and having exactly the appearance of a rock.

On approaching it, the captain was soon convinced it was not a rock, but a body possessing motion of its own, and unquestionably an extraordinary animal. It was ascertained that the creature made progress towards the ship. They kept her somewhat away to avoid running foul; but

at the same time sailed near enough to allow observations to be made.

The animal continued its course without intimidation, and crossed the vessels wake just behind the rudder.

The part of the back that was above water, seemed to the captain as large as the floor of a parlour in which we were then sitting; which was a chamber of about twenty feet by fifteen.

The guns had been loaded to shoot it; but on drawing near, the view was so terrible that not a single piece was discharged. It was judged most prudent to sail by without offering any disturbance, or even hoisting out a boat. Its motion was steady, but slow and heavy.

Another gentleman, Mr. Robert Cornwell, who was on board, possessed of good eyes and quick perceptions, told me it would have been easy to have run the ship on board of it. This was avoided by keeping her away.

The appearance, as far as I could gather from these two respectable witnesses, was such as to refer this monster to the same class with the others. It was longer than the ship, and her length on deck was one hundred and ten feet. A person could with the greatest ease have leaped from the quarter-deck upon its back, a little before it passed the ship's track.

The skin was totally destitute of hair; but was black and distinguished by spots, or rather seemed to be covered with barnacles. Mr. C. thought the part above water was forty feet in length. This was roundish or gibbous. The elevation might be four feet from the level of the sea. The captain thought he saw a knob or head. On the part above water, he distinguished a wrinkled or folded appearance, which he compared to an umbrella. And the wrinkles or folds seemed to possess living motion.

A sailor on board assured the crew that this formidable creature was nothing but a sea-elephant. An inquirer, however, who knows any thing of the matter, will perceive at once that it cannot be a species of the *Phoca*. And not a seaman on board presumed to think it a whale. It was probably a *Polypus* of the colossal size described in my former communication; a creature with whom it becomes naturalists to cultivate a more particular acquaintance.

While I have my pen in hand, I must state to you another fact. I remember to have read among the articles of ship

news and marine intelligence in our gazettes within a few years, that the putrefying carcase of a gigantic cuttle-fish, tainted the air to a great distance around the spot where it lay, to the east of the most southern promontory of Africa, during an antarctic summer. It continued to corrupt during the season of austral heat, and to afford food to numberless birds of prey. I neglected at the time to cut out the paragraph with my scissors; and I know not where I should turn to find it. But my recollection is strong as to the leading particulars.

Before I close my epistle, I beg leave to offer you a further piece of information.

Captain Jonathan Worth, formerly of Nantucket, saw, during one of his whaling voyages, in the year 1762, on the coast of Newfoundland, a squid, that was driven ashore dead at the Bay of Bulls. The animal was enormous. The biggest limb or arm was computed by him to equal in magnitude a twenty barrel spermaceti whale; which, according to the most correct estimate, would make it at least thirty feet long, and ten feet round. The flesh of the squid is very much prized as bait for codfish, and Captain W. said the fishermen of the place came out and cut it away in quantity sufficient for the outfit of their boats. During the season, until it was rendered unfit by putrefaction. Besides the natives and others, many of the Nantucket whalers were there, and witnessed the occurrences. The account of this person may be considered as a rough estimate, or gentle hyperbole of an event that is correct in the great lines and features.

Allow me to congratulate you on your botanical honours, and to beg a continuance of your friendly regard.

SAMUEL L. MITCHILL.

GREEN RIVER, OR MAMMOTH CAVE,*Henderson County, Kentucky.*

This partial but interesting account was received by a respectable gentleman of this city.

Louisville, July 5, 1814.

I returned a few days since from a jaunt in the lower part of this state, called the Green River Country. On my way down, I visited the celebrated Mammoth Cave ; it is doubtless one of the greatest curiosities in nature, and is well worth being explored ; this however would be an undertaking of no inconsiderable magnitude, from the great number of its branches, the extent of a few only of which have been ascertained. A partial description of it was published some time ago by a medical gentleman who visited it, and who I was informed spent a day in exploring one of the branches, into which he penetrated ten or eleven miles. I shall not therefore attempt a description, but merely mention a few particulars as they occur to my recollection; the distance which I entered being only two miles from the mouth of the cave.

About a quarter of a mile from the mouth is a Mummy, (lately deposited there from a neighbouring cave, and intended for Peale's Philadelphia Museum); it is grey-headed—the teeth much worn, but sound, and the flesh entirely dried up. It is supposed to have been a Queen, from the number of trinkets found with it, consisting of needles, head dresses of various kinds of feathers, necklaces of deer hoofs, beads, mockasons, paint, a whistle, a bear's jawbone, a hawk's claw, and a rattle-snake-skin with rattles. These were enclosed in a pack, (or wallet, used by Indians for transporting goods), they being first enclosed in a fine wrought *indispensable*, afterwards in one of a coarser texture, and then in the pack ; which with the body was wrapped up in two dressed deer skins, and the whole again enclosed in a mat or coarse wrapper. The visage seemed quite venerable, and the whole presented a truly antique appearance. I examined the ears and nose, but did not discover aught whereby to conclude that either had ever been deco-

rated with trinkets, from which circumstance it may be presumed they were not in vogue when regal dignity, and perhaps power, were vested in the body. The nails on the hands and feet were perfect; the feet small in proportion to the body, which was of a large stature.

Proceeding on, I entered the haunted-room (so called), in which is an arm chair formed of petrified rock, and one and a quarter mile from the mouth of the cave. Near to this is a spring of water falling from the arch above, remarkably clear and pleasant to the taste, having an agreeable sweetish flavour. In another branch is a heap of petrifications, resembling furnace cinders, a pond, &c.

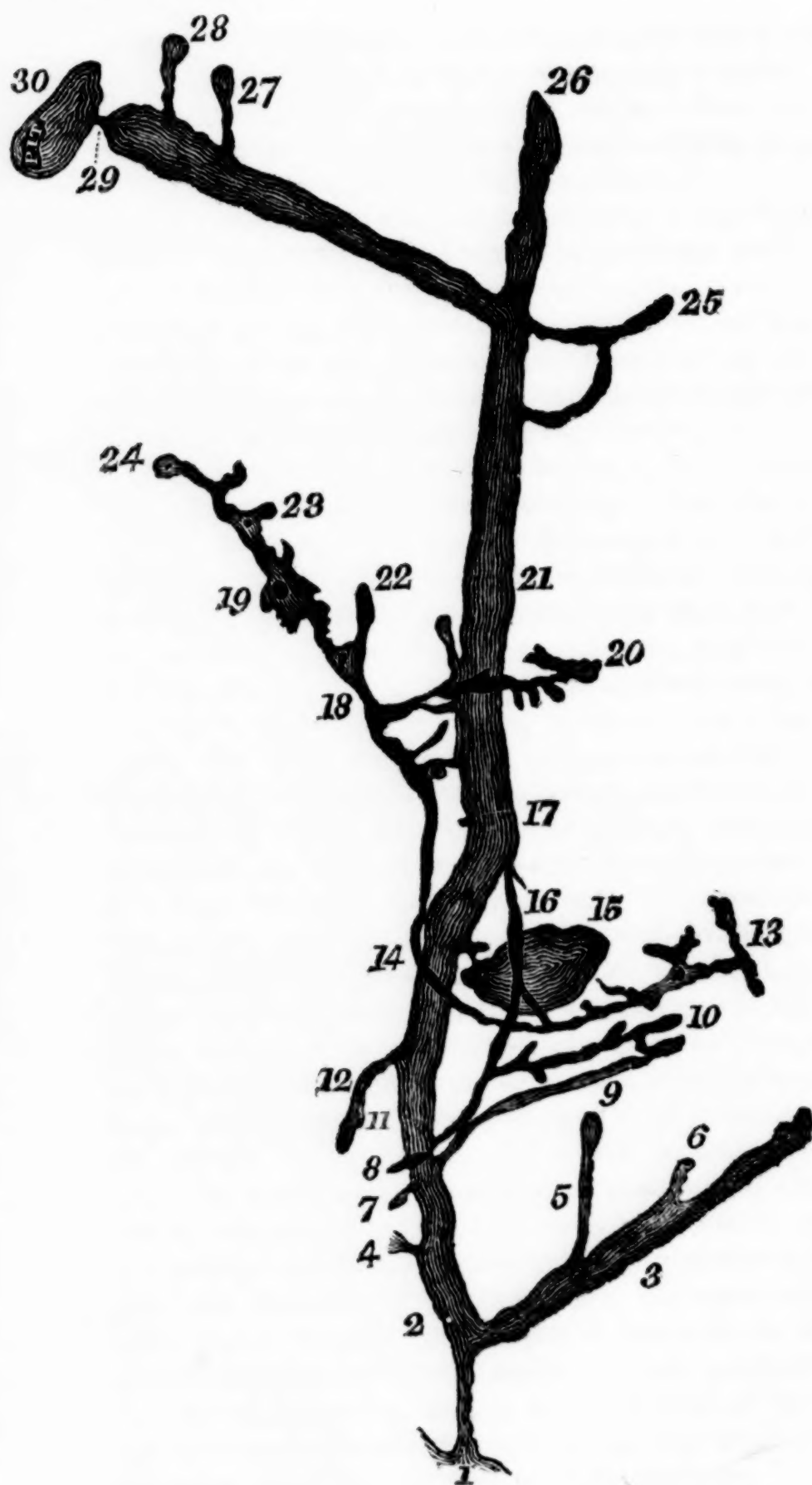
A strong current of cold air issues from the cave, perceptible at the mouth before descending. The current sets in during the winter season, but the temperature within is not affected by the change, it being uniform throughout the year. Human tracks imprinted on the sand, and from four to twelve inches in length, are to be seen in some of the rooms, and pieces of reed or cane strewed along the paths, having in all probability been formerly used for lights by those who then frequented, and not improbably inhabited the place. In many places are large pillars of petrification, formed by water dripping from the arch, and which seem to support it. One (or rather part of one) is called the Bell; it is four feet long, and extends half way down to the bottom of the cave, the height of the arch in this place being about eight feet; a sound is occasioned by striking it with a stone, similar to that produced by striking a cannon of pretty large calibre with a piece of wood. The height of the arch varies in different places; in some it is estimated at fifty feet, and in others a person is obliged to stoop almost to the ground to pass along. The arch in many places has a beautiful appearance, being that of a plaistered ceiling. In one or two places which I particularly noticed, and where the passage is wide, it presented a strong resemblance of a spacious circular room; the effect was produced by the light of the lamps, which showed distinctly the white and smooth petrification above, and which was gradually lost by the shades becoming darker, as the power of the light was lessened upon the more remote parts, and until the eyes by following them were carried to silent darkness. The descent (a small ascent in some places excepted) is generally gradual as you progress inwards; the most rapid is down a

CHALK RIVER OF HAMPSHIRE



1800-1801

GREEN RIVER, OR MAMMOTH CAVE.



To face Page 393.

rather steep hill of about forty feet in height. By stamping occasionally, I discovered that I passed over several vaults, or probably other rooms or branches. The subterraneous sound produced by stamping was not terrific, as I had been led to believe before I made the experiment.

REFERENCES TO THE PLATE.

1. Mouth.
2. Indian Mummy.
3. Right-hand Chamber.
4. Mountain Room ; the entrance is from the top of the mountain.
5. Little Room, with a spring and two pits.
6. Springs.
7. Sand Room.
8. Part of the Haunted Room.
9. Sick Room.
10. Haunted Room.
11. Springs.
12. Horn Room.
13. Pit, 100 feet deep, and water falling several hundred feet.
14. Part of the Deserted Chamber, which runs under the Salt Rooms.
15. Deserted Chamber.
16. This room runs under the Deserted Chamber
17. A large spring falls several hundred feet.
18. Glauber salts, (sulphat of soda) found here.
19. Mockason Room.
20. A large room or pit, above fifty feet deep.
21. Salts.
22. Ground Room.
23. Basket Room.
24. Sembins Room.
25. Weeping willow ; this room runs about a quarter of a mile, then returns to the same place.
26. Two springs in two large sink holes.
27. Beekman's Room.
28. Miller's Room.
29. Hell's Gate.
30. Devil's Chamber, supposed to be ten miles from the mouth.

Peach Trees becoming diseased, and dying from a disordered Blossom and morbid Staminal Dust.

It has been generally believed of late, that the decay of the peach trees in New-York and the neighbouring states, was caused by a worm getting under the bark near the root, just between air and earth. But Gilbert Aspinwall, Esq. has adopted a different opinion, grounded on an extensive survey of facts. He thinks that insects have nothing to do in the matter ; but that the mischief arises from the farina or pollen of the flower vitiated by disease.

Facts which have been observed by this gentleman on peach trees, in relation to the disease commonly called the yellows, which had made such destruction on that fruit in the townships of Flushing and Jamaica, Long-Island, are the following :

- 1st. That the disease first appears in the fruit.
- 2d. That the same year the leaves all turn yellow.
- 3d. That neither the roots nor the body of the tree exhibit any mark of disease the first year of infection.
- 4th. That young trees not old enough to bear fruit are not affected with disease.
- 5th. That on an old tree in his garden at Jamaica, was a young limb, growing about six feet from the ground, about two inches in diameter, which had not borne fruit, was not affected, when all the other limbs which bore fruit were diseased.

From the above observations, he has been led to conclude, that the disease is communicated from the farina of the infected tree fixing on the blossom of the healthy tree. This opinion, he communicated to Mr. William Prince, of Flushing, and this skilful cultivator, after due investigation, is said to have the same belief.

The observations of Mr. Aspinwall and Mr. Prince are of a very interesting nature. The mortality among the peach trees within five or six years has been very extensive. The loss has been great to our farmers and gardeners, and there has been remarkable diminution and deterioration of the fruit in our market. It is to be hoped the true cause is now discovered. If so, it will probably be best to cut down all the old trees and begin new plantations. We exhort all

persons who possess peach trees, to assist in the investigation of this interesting subject.*

* The following facts have been ascertained by Dr. Felix Pascalis, in his Peach-Orchard, when residing in Philadelphia, and confirmed to him by five years observation. 1stly. That a large fly, an *ichneumon nemoralis*, is frequently seen during the summer months fluttering on the bark, as intent to deposite eggs when she rests, and which she insinuates with a sting under the epidermis. 2dly. That these eggs are soon hatched by the heat of the season, and transformed into worms, when the gummy sap oozes out of the wounds or apertures, forcing out and containing the worm with it. 3dly. That this gum is soon dried and hardened by external air, squeezing thereby the worm to death, the cadaver of which is easily found in the centre of the lump, if it is examined, by opening it with a knife. 4thly. That the peach tree is thus delivered of all worms, except those that remain near to the ground, where the oozing gum is never hardened, owing to a greater moisture, leaving thereby time enough to the worm to grow strong and creep back under the bark, directing its way into the ground, where he finds a more congenial habitation, and where, if allowed to thrive, he gradually encircles the trunk, and thus intercepts the life or circulation of the sap. 5thly. That this worm is easily traced by the presence of gelatinous matter around or about the root, and then dislodged from its recess under the bark with a pruning knife. It is white, and about an inch in length. We are therefore, of opinion, notwithstanding the respectable shape in which the above account appears, that great destruction among peach trees is caused by the ravages of the worm.

INTELLIGENCE.

*Diseases and Bills of Mortality in the City of New-York,
February 1, 1815.*

AFTER three successive recurrences of the winter epidemic, we rejoice in not having to record again its prevalence in this populous metropolis. We apprehend, however, that a few fatal cases that bore a resemblance to pneumonia typhoides may have taken place in this and the neighbouring islands, especially in some of the military hospitals. The typhus mitior, or *long fever*, has been rare, and a few cases of typhus gravior have terminated fatally. The north-west winds which incessantly prevailed since autumn did not interrupt a gradual and salubrious temperature until the middle of January, when all at once, and with light snow storms, it became intolerably cold; in two instances we felt its intensity at the rare degree of 1 or 2 below nought, 33° or 34° Farhenheit, below the freezing point. From this extreme the quicksilver never varied much above the 12° or 15°, during nearly two weeks. Accidental deaths, and frozen limbs have consequently taken place among the poor, unguarded, or exposed persons, but in a small number; the destruction of ornamental vegetation and culinary vegetables, has universally been much regretted; yet the public health has remained unimpaired. The temporary severity of the cold has been like an additional stimulus to that of human passions variously excited among the tumults of war, the dangers of domestic security, the trials of personal patriotism, and the huzzas of national honour. The operation of moral and sentimental energy is admitted as a preservative, or as a remedy of diseases, just as its excess or despondency is sufficiently powerful to disturb animal economy. Had it not been for some adventitious and salutary circumstances, the general health of our able-bodied citizens must have been injured, after having encountered and submitted to many privations, and even in an inclement season, engaged their services in fatiguing military duty, and their la-

hours in the erection of stupendous and extensive fortifications. "Ex longo tempore Consueta, etiam, si deteriora fuerint, inconsuetis minus molestare solent." (Hipp. Aphor. 5 sect. 2.)

BILLS OF MORTALITY in New-York, as observed and reported by Dr. ISAAC BALL, M. D. Assistant to the Board of Health. Commencing October 1, and ending December 31, 1814.

		Consumption.	Various diseases.	Total.
October 1 to	8	5	35	40
	15	12	25	37
	22	17	30	47
	29	11	25	36
November	5	16	32	48
	12	18	35	53
	19	9	24	33
	26	9	28	37
December	3	8	32	40
	10	4	31	35
	17	6	24	30
	24	12	30	42
	31	10	16	26
		137	367	504

Epidemic Disease in some parts of Virginia and Maryland.

Through the newspapers we have been informed of the prevalence of an alarming epidemic in the counties of Stafford and King George, Virginia. We are aware of the authenticity which the subjoined facts must require for the satisfaction of our readers. Such as they are, we have derived some useful hints from them.

Falmouth, February 3, 1815.

"I have seen James Waller to-day, just from Aquia : he had been in pursuit of a doctor to attend his brother William, who was taken yesterday with the complaint that has destroyed so many of our inhabitants. Mr. Garnett died a few days ago at Aquia. The distemper is distressing beyond any thing that you can imagine—it takes off whole families. I am fearful to send any of my family to Aquia. John Cooke lays at the point of death ; his father has been down to see him, and was fearful to go into the house. If the disease does not abate, I am apprehensive it will destroy the greater part of our inhabitants. In King George there was a family of ten—the whole died except a little boy, who went to a neighbour's house, after starving a day or two, and asked for some bread. The neighbour asked him if he had not plenty at home ? He said that his father, mother, and the rest of the family were asleep, and that he could not wake them. He was asked how long they had been asleep ? He said a day or two. The neighbours went over, and found nine of them dead ! They were so much alarmed, they concluded it would be the best way to set fire to the house and burn them up, which was done. Poor Andrew Leach, his wife, son, and daughter are dead. Old Mr. James Steward has lost his son Stephen and his daughter Sally ; his daughter Nancy is now very ill at Mr. Norman's place. Old Mr. Carpenter and his son are also dead. Mr. Ball, just below the Court-House, has made 13 coffins in the course of a few days."

"The alarming disease, noticed in the above letter, has existed for several weeks on some portions of the sea-board. In the Northern Neck it has made the greatest ravages. It frequently kills in from six to twelve hours. It principally preys upon the heartiest and most robust patients. The physicians are at some loss to describe or to treat it. Some describe it as a typhus fever, others as a violent inflammatory sore throat, the most of them as a putrid sore throat. It affects the throat most violently, and obstructs the circulation of the air through the wind-pipe. In a few instances, as in the one above stated, the houses in which the dead have laid, have been burnt down to prevent the diffusion of the contagion."

If the above statement was true, it would remain with us to declare, that the very thought of thus remedying the dreaded progress of *contagion*, or pestilential disease, is altogether shocking, and should not be countenanced, nor even permitted in our days. For, if this promiscuous destruction of dead bodies and property by fire was not an effectual remedy against the *contagion* from which these mortal diseases had originated, it follows that any living body who might have been suspected to be himself a fomes of contagion, must, for the preservation of the community, be instantly doomed to death, or should, like the Count Ugolino of *Dante*, be, with his children, walled up in a tower. Such horrid results of a dogmatic, unphilosophical, and superstitious belief have been witnessed in Carthagen, in Old Spain, during the prevailing yellow fever of 1801; but after they had walled up the doors and entries of private houses, whose inhabitants had lost one or more victims, fifteen thousand persons perished in the streets; and the remaining prisoners of infected houses who received their daily pittance through an upper window, were singularly and happily preserved. We will not at present enter into a more explicit illustration of inconsistencies arising from the dread of contagion in epidemic diseases; but to guard better our fellow citizens against panic terrors, as well as shocking and inconsistent measures, let them be reminded, that *contagion* in epidemics of any kind is not the real cause of their propagation; that in those even of the yellow fever and of the plague, it has been controverted.

The following documents respecting the epidemic alluded to above, may perhaps give some distinct ideas and definition of its nature; and while it testifies to its rapid and deadly operation, it leaves great hope of success in prompt and judicious treatment. As usual, it will be our duty to investigate the subject.

Letter from Henry Hunt, Esq. Hospital Surgeon, United States Army.

Washington, February 4th, 1815.

DEAR SIR,

In compliance with your request, I will give you a short history of the present *epidemic*.

This disease is truly called *pneumonia*. It generally comes on with a chill, attended with great oppression about the breast, and sense of suffocation. These symptoms are succeeded by pain in the breast, sore throat, cough, and expectoration of yellow mucus, (sometimes streaked with blood), the temperature of the skin falls below the natural standard, the blood forsakes the superficial vessels, and the pulse becomes *depressed*, and sometimes almost imperceptible. The first object of the physician, in such cases, should be to restore the heat of the skin, by placing his patients between blankets, making use of hot applications (Dr. Jennings's patent bath I have found the most convenient mode of applying heat in such cases) and by giving hot teas. As soon as the patient is a little relieved from the cold skin, give a puke of ipecacuanha or tartar emetic; afterwards take three or four ounces of blood from the arm. This operation should be frequently repeated, taking care to continue the warm teas and hot applications. In some cases of great depression of the pulse, I have found it necessary to use small bleedings six or eight times during the day, when the pulse would recover its elasticity, and the lancet then may be used as freely and successfully as in common pleurisy. The medicines which I used during this time, are small doses of calomel and tartar emetic, repeated every three or four hours, as circumstances may require. After depletion, *blisters* may always be applied with success. When an attack is attended with a hot skin and flushed countenance, the depleting remedies may be used with less caution and more success.

This disease is rapid in its progress, and requires the most prompt and judicious application of the remedies. If the lancet is used *freely*, while the *skin is cold*, and the *pulse depressed*, the patient will certainly *sink*. In these cases, the grand object of the physician should be to relieve the large blood vessels from their engorged state, by a gradual abstraction of blood, and by exciting more action in the superficial vessels, which can most effectually be done by the constant perseverance of hot applications.

I have seen many dissections of persons who have died of this disease, within the last year. The full force of the disease falls upon the fauces, the trachea, and the lungs; and every case showed inflammation, congestion, adhesions, and effusions—therefore, no doubt can be entertained of the

most correct mode of treatment, and all that is required, is a *judicious* application of the *depleting* remedies.

Most respectfully, your obedient servant,

HENRY HUNTT.

Anonymous Letter on Gall's Cranioscopy, and the manner of testing the truth of his hypothesis by nitrous oxyd.

A subject of curious speculation has presented itself to my mind, while engaged in the perusal of Dr. Gall's ingenious theory of craniology and cranioscopy; and I know of no person more competent to give the matter a full and accurate experimental investigation than yourself.

Dr. Gall is of opinion that each faculty of the mind has its corresponding organ in the brain, and that the strength or perfection of the faculty in the individual is always proportioned to the developement of that organ, which developement is manifested by a sensible protuberance of the skull, directly above the developed organ. From these protuberances, (as you well know) Dr. Gall thinks the reigning faculty of the individual may be discovered.

He also remarks, that whenever an organ is found in a very high degree, should lunacy or madness follow, that strongly developed organ, if it gave the character to the individual when sane, so also does it give to the disease its peculiar character, the excitement of the brain resting most strongly on such organ.

If Gall's theory is true, an artificial excitement would form in all cases an excellent test of the accuracy of the theorist's decision upon the fact of any given protuberance covering a given organ; now the inhalation of the nitrous oxyd causes a peculiar excitement of the vital principle, and produces "*brevis furor*." It appears to me, therefore, that this gas may be used as an instrument of organoscopy, with much greater certainty than the hand. The gas must strongly excite such organ as is most strongly developed, and if the acts of the individual under its operation belong to that faculty whose developement is discovered on the skull, nitrous oxyd becomes a powerful test of the truth of Gall's theory. The force of these remarks will be more obvious when you turn your attention to the cases

mentioned in the Medical Repository, 2 Hex. v. page 261, and consider them a strong developement of the ruling faculty of the individual under the excitement of the gas. All this may be egregiously trifling, and therefore you must excuse my *informal conclusion*.

January 10, 1815.

Porter's Cruise to the Pacific Ocean.

In our last number (Medical Repository, vol. xvii. page 309 and 311), respectful mention was made of this memorable expedition. The gallant commander has since favoured his fellow citizens with a narrative of his proceedings, from the 28th of October, 1812, when he left the Capes of Delaware, to the 4th of April, 1814, a few days subsequent to the capture of the frigate Essex, which he commanded, by two ships of the enemy, at Valparaiso, in Chili.

It comprehends the account of his proceedings during the run to Port Praya, in St. Jago, one of the Cape de Verd Islands; thence to the Isles of Fernando de Noronha; thence to Cape Frio and St. Catharine, in Brazil; thence through the Straits of Le Maire, round Cape Horn, to the Island Mocha, in Chili; and so on, along the coast of Chili and Peru, to the Gallapagos, to Tumbez, in the gulf of Guayaquil, and back to the Gallapagos; thence away to the Ingraham Islands, the northern part of the Marquesas group, situated between 8° and 10° S. latitude, and near 140° W. longitude; and thence back to Valparaiso, where the journal ends.

The remarks on the trade-winds (vol. i. page 31 and 32); on oceanic currents (ibid. 32 and 35); on land and sea-breezes (ibid. page 42 and 43); and on some mistakes relative to the Abrolhas Shoal, east of Brazil (ibid. page 44); all of them indicate a nautical and philosophical spirit highly respectable to the author. His circuit round Cape Horn, reaching to 60° 7' S. latitude, and 79° 28' W. longitude, is related in such a manner as to interest all mariners, and indeed every reader of sensibility. (Ibid. page 77 and 92.)

Our restricted space forbids us to enlarge on the matter of these volumes as we could wish; but even if we had

room, we might be excused from extracting the chapters which this justly popular publication contains. We shall therefore content ourselves with observing, that Capt. Porter's description of the Gallapagos Islands furnishes many particulars in addition to the description of Captains Vancouver and Colnet, both to the navigator and the naturalist. (Ibid. page 137—189. Ibid. page 226—248.)

The second volume is peculiarly worthy of consideration. It opens a new field of observation, for the speculative mind, as to the situation and productions of Rauahooga and Nooahevah, two of the islands visited in the Ingraham group. The latter Captain Porter has taken away from Sir Harry Martin, and bestowed upon President Madison. The manners and customs of the natives, and the occurrences which befel him during his stay in their country, and his intercourse with them, are equal to any thing of the kind that we remember to have read. They are replete with original and curious delineations of human nature.

This performance is rendered additionally valuable by a chart of the Washington islands, as he now calls this group, and by several beautiful perspective views, and drawings of persons, arms, and utensils, done by the author himself, and evincing his proficiency in the elegant and useful art of delineation. The publishers have embellished the work by a portrait of Captain Porter, painted by Wood, and engraved by Edwin.

We understand that much important matter yet remains in Captain Porter's *escrutoire*; which, under favourable auspices, may perhaps be published as a sequel, at some future day.

These remote islands seem to have but few distempers. The venereal disease was unknown to them. They deal greatly in charms and incantations; by them they believe they can procure the death of their enemies, and effect the cure of the most dangerous wounds and sickness. The priests are their principal surgeons and physicians. They lose many of their patients. Still the people believe them none the less. (Volume ii. page 117). The women are not forced to perform hard labour and drudgery; but are occupied in domestic employments. Tatooing is performed by the sharp teeth of an instrument resembling a comb, rubbed with a black paint made of the carbone of burned coco-nut-shell. It is struck into the skin by a sort of ham-

mer, so as to fetch blood. The operation is oftentimes excessively painful and severe, and the patient is bound, to make him the better endure the torment. The pigment inheres in the skin; the wounds soon heal; and the colouring material defying the power of the absorbent vessels, remains indelible for life. (Page 124). He says, (page 121) "that their doctors are in some sort professional men." One would scarcely expect they had progressed so far in surgery as to trepan the skull; and yet we are informed (volume ii. page 37), that something very much like that operation is practised. "Whenever the skull is cracked, the bone is laid bare, and the fracture traced to its end; and there a small hole is drilled through the skull to prevent the crack from going any farther. This practice is pursued wherever the fracture branches off in rays. If there are any loose pieces of bones, they are carefully laid in their places; the wound is bound up with certain herbs, the virtue of which is known to them; and nature, a temperate mode of living, and a good constitution do the rest."—We would recommend this to the consideration of our civilized surgeons.

As we are on the subject of surgery, we take occasion to pass to that of anatomy. In the last number we described the great tortoise of the Gallapagos. We now insert the internal structure of that animal as noted by the person who performed the dissection.

"On the 13th of February, 1815, I examined the body of the female Gallapagos tortoise.

"I found the alimentary canal to be exceedingly large and capacious. The whole length of this tube, from the throat to the anus, was about thirteen feet. Of this the gullet and stomach were twenty inches; the small guts five feet, and the large ones six feet and a half. The cœcum had no appendages; the colon had faint and weak muscular bands; and the rectum communicated with the uterus and bladder a few inches before the posterior outlet. They are all united with one common cloaca.

"The bladder contained a considerable quantity of urine. It was remarkably large, and capable of holding four quarts of water, as we found by experiment. The creature, when alive, voided naturally great quantities of urine.

"The animal is said to hold within it, when in health, a plenty of potable water. I found none in this individual;

though the stomach, colon, and bladder could each have contained a large supply. The reason probably was, that the creature had been for a long time under artificial restraint, and had been crammed to death, through kindness, by Indian meal (meal of maize). The uterus contained two eggs almost ready for exclusion, the weight of one alone was six ounces. These had beautiful calcarious shells, that were rough, white, round, and about the size of a one pound shot. It was divided into two parts, and the ova were very numerous, and of different sizes. Near the junction of the two cornua uteri with the strait intestine, were the two kidneys of a triangular figure, and of a convoluted structure. Their extreme length was four inches, and the breadth of the widest part two and an half.

“ The trachea divided into two branches, one of which entered each lung. The cells of this organ were open, large, and distinct, as usual in these amphibious creatures.

“ There were two large muscles parallel with the back, for retracting the neck. One of them arose from each side of the cervical vertebræ; they were of extraordinary length, and were inserted in the shell towards the rump. The outer coat of the shell looked as if it was sufficiently beautiful for manufacture.

“ The heart consisted of two auricles and one ventricle; the auricles were separated by a septum. The pulmonary veins emptied into one, and the vena cava into the other. There was but a single ventricle; and two fleshy valves, in shape somewhat like the epiglottis, opposed the return of the blood from the ventricle into the auricles.

“ From the ventricle proceeded three arteries; two of which soon divided into two branches each, making five in the whole, soon after leaving the heart. The heart was oblong and kidney shaped. These arteries had appropriate valves at their origin.”

Description of the Great Salt Plains, near the Sources of the Arkansa River, in Upper Louisiana. By G. G. Sibley, Esq. United States Factor; and communicated by Josiah Meigs, Esq. for the Western Spy.

The Grand Saline is situated about two hundred miles south-west of Fort Osage, between the forks of a small

branch of the Arkansa ; one of which washes its southern extremity, and the other, the principal one, runs nearly parallel with, and within a mile of its opposite side. It is a hard level plain of reddish colour, and of an irregular or mixed figure—its greatest length is from N. W. to S. E. and its circumference fully thirty miles. This plain is entirely covered in dry hot weather from two to six inches deep with a crust of clean white salt, rather superior I think to the imported blown salt ; in this state I think the Saline bears a striking resemblance to a field of brilliant snow with a crust on it after a rain. The Grand Saline is environed by ridges of sand-hills, some of which are perfectly naked ; some clothed with verdure and small trees ; others afford on their declivities thickets of dwarf plumb bushes, not over thirty inches high, which yielded us (23d July, 1812) a great abundance of ripe plums, the largest and finest I ever tasted. I am of opinion that the salt may be easily waggoned from this place to the Arkansa, where keel boats may receive it at certain seasons. The Rock Saline lies about seventy-five miles N. W. of the Grand Saline, surrounded by naked mountains of red clay and gypsum ; it is a level flat, of hard red sand, of about five hundred acres, through which passes a small stream, dividing it into two equal parts ; one fifth of which, or about a hundred acres, being on the S. W. side, close under a tremendous hill, from the base of which issue several springs of salt water, which gradually cover the plain, and by the action of the sun, is, in certain dry seasons, converted into a solid mass of salt, several inches thick. There are also within this plain four springs of salt water, perfectly saturated, around which are found hollow cones of rock salt, from twelve to twenty inches in thickness. When I visited this Saline it had just before been inundated by excessive rains, and all the salt was swept off, except around the four springs ; yet I found an immense quantity there, and actually blocked out with my own tomahawk, a very clear piece, fully sixteen inches thick. From what I saw myself, and from what my faithful Indian guides told me on the spot, and had often told me before, I have not the least doubt but there are times when this section (next the hill) is covered completely with a solid rock of salt, from four to twelve inches thick, resembling a field of ice in large flakes—the other section produces salt exactly like that of the Grand Saline. The country around the

Rock Saline is mountainous, and the Saline can only be approached on foot, or with some difficulty on horseback. You have a specimen of the salt* which I got at the Saline from one of the springs, therefore I need not describe it.

Re-union of separated Parts.

We have heard of the doctrines of Caspar Taliacot, and of his (very rare) book, *De Curtorum Chirurgia per incisionem*. From the communication of Dr. Balfour, as inserted in the Edinburgh Medical and Surgical Journal, (No. 40, October 1, 1814) it would appear, however, that this inventor of the art of repairing mutilated parts by *ingrafted* flesh, did not suppose that re-union of separated parts could be effected, if no attachment was left among them to keep up circulation. It was upon that principle that the operation on a Mahratta Indian was undertaken, to form a new nose, by reversing so much of the skin of the forehead, on the pared stump, after he had been mutilated by order of Tippo Saib. (Vide Gentleman's Magazine, October, 1793). On neither authority we wish to recommend the following cases of separated parts re-united, to the attention of our surgeons. For if the small attachment is necessary, Taliacot's doctrine, proved by the new nose of the Mahratta's soldier, cannot in the least show the fact more attainable of re-union in parts which had no attachment left. But if this attachment is not required for the completion of the phenomenon, the alleged authority commands no belief of the proposed inference, unless we were informed how flaps inverted, drawn and laid in a contrary direction to that they had originally, could be made to adhere, without abrading the outside cuticle, to say nothing besides of the excessively morbid state of the adjacent denudated part. Without any such document we offer the two cases of Dr. Balfour, as highly interesting in surgery. The first, we have in our power to exemplify by a quite similar

* This specimen is about four inches long and two inches in diameter. It is in the possession of Dr. Drake.

occurrence, and success. The second, we confess, is almost unprecedented, and claims insertion only from an overruling mass of testimony.

CASE I.

One of my sons, a boy of about four years and a half, diverting himself on the outside, had one of his hands in the groove of the hinge side of the door. I was shocked with a wild scream that I heard upon the door being shut; and still more so, when Mr. Gordon came in, carrying the boy in his hands, stretched, from agony, as upon a rack. The points of three of his fingers were completely separated, with the exception of a slight attachment of skin, which barely suspended the parts. The points hung at right angles when the fingers were extended. The point of the index was cut off at the middle of the nail, the fore-finger a little above the nail, and the ring-finger at the root of the nail. The wounded surfaces were necessarily much bruised, but the fingers were, nevertheless, cut so perpendicularly, that, unless I had seen it, I could not have believed a door could have done it. With the assistance of Mr. Gordon, the innocent cause of the accident, I instantly replaced the parts, with but little hopes, I confess, owing to the degree of contusion of the wounded surfaces, of re-union taking place. But I was so shocked at the idea of the boy's hand being mutilated for life, that I hesitated not a moment to put the powers of nature to the test. On the sixth day after the accident I removed the bandages, when I found adhesion had taken place, to the unspeakable joy of Mr. Gordon, the boy, and myself. The skin and nails came off all the three fingers, but were afterwards renewed; and the cure was so complete, that a narrow inspection was necessary to discover any difference between the fingers of the one hand and those of the other. There was, indeed, no difference to be perceived, but a slight scar on the left side of the ring-finger, at the root of the nail.

The preceding Case illustrated.

Two children, brother and sister, of Mr. George Minuse, of this city, were playing and cutting chips of wood with a sharp hatchet, when, by an unfortunate blow, the boy cut

and separated the finger annularis of the girl, and wounded the medius, very near the articulation of the third phalanx to the hand. A very small attachment of the pendulous finger remained, which Dr. Pascalis, (with very little hope) thought proper to adjust and fix with small splinters, in its natural place. This dressing proved uncommonly difficult, but perfectly successful. The finger felt warm twenty-four hours after, and it soon most astonishingly healed, with very little matter around it, leaving hardly any visible scar to this day.

CASE II.

On the tenth day of June last, two men came into my shop, about eleven o'clock in the forenoon, one of whom, George Pedie, a house-carpenter, had a handkerchief wrapped round his left hand, from which blood was dropping slowly. Upon uncovering the hand, I found one half of the index wanting. I asked him what had become of the amputated part? He told me he had never looked after it, but believed it would be found where the accident happened. I immediately despatched Thomas Robertson, the man that accompanied the patient, to search for and bring the piece. During his absence I examined the wound, and found that it began near the upper end of the second phalanx, on the thumb side, and terminated about the third phalanx on the opposite side. The amputated piece, as measured by the patient himself, was an inch and a half long, on the thumb side, and an inch on the other. The wound was inflicted in the cleanest manner, by one stroke of a hatchet, and terminated in an acute point.

In about five minutes, as nearly as I can guess, Thomas Robertson returned with the piece of finger, which was white and cold; and I remarked to Dr. Reid, who was present, that it looked and felt like a bit of candle. Without the loss of a moment, I poured a stream of cold water on both wounded surfaces, to wash away the blood from the one, and any dirt that might be adhering to the other. I then applied, with as much accuracy as possible, the wounded surfaces to each other, expressing a confident expectation that re-union would take place.

He called on me the next day, when he felt no particular uneasiness, but remarked, that the wound had not altogether

given over bleeding. Assuring him there was nothing in that, I desired him to call on me every day, but did not see him again till the 4th of July.

The accident happened on the tenth of June, and on the twelfth, the patient, under the influence of the ridicule of his acquaintances, for giving the least credit to my assurances that re-union would take place, applied to another practitioner. This gentleman, I am informed, on being told the object I had in view in replacing the piece of finger, represented the impropriety of any other person intermeddling with it. But, prepossessed with the belief that he carried about a piece of dead matter only, tied to the stump of his finger, the man insisted on having the bandages removed, which was done accordingly. Thus was rendered nearly abortive my attempts at the re-union of the parts, and the profession deprived of a fact, which, as demonstrating the wonderful powers of nature to repair injuries, is inferior in importance to none in the annals of the healing art. But, fortunately, nature had been too busy for even this early interference to defeat her purpose—ADHESION HAD TAKEN PLACE.

The finger, in fact, is the handsomest the man has, and has recovered both heat and sensation. In the progress of the cure, the skin was changed, and, soon after the accident, the nail fell off; but I have not the smallest doubt that it will likewise be renewed.

Three affidavits, sworn to before a Justice of the Peace, at Edinburgh, are subjoined to the original.

A great Work in France on Fishes.

The French government, as long ago as January, 1811, commenced the patronage of M. NOEL DE LA MORINIERE'S *Natural History, economical and political, of useful Fishes; preceded by that of the Morse, Seal, and whale families of animals*; a performance to be comprized in six volumes 4to. with engravings.

The design of this extensive and important undertaking will distinctly appear from the author's letters to the learned and excellent Lescallier, Consul General of France to the United States of America.

"I have devoted," he observes, "a long series of research and trial on the compilation of a work on *the history of useful fish*, and of the fisheries of which they are the object. Ever since the fourth of January, 1811, the minister of foreign relations did me the honour of franking my correspondence with his majesty's diplomatic agents at foreign courts.

"Hitherto I have not extended this favour to America; because the order of my proceeding has not required it. I now avail myself of an opportunity which presents, to write to you, and to ask of you such good offices as you can do me. I have the honour of sending you, at the same time, the prospectus of a work in which I am engaged, and which I submit to your consideration.

"The events of the last twenty years have given to the American fisheries such a remarkable ascendancy, that they now attract the regard of every maritime power that is concerned in this kind of employment.

"To impress this enterprize with the character of excellence of which it is susceptible, it is of the utmost importance to me that the information you transmit should be scrupulously correct.

1stly. As to the name and number of the ports of the United States from which the whale fishery is carried on to the southern ocean; and under this denomination I include the coasts of Africa and of Brazil, as well as those of the Pacific, and the whole range from South-America to the North Sea, as far as Nootka Sound.

"2dly. As to those who are engaged in the fisheries in the waters of the United States only, towards Rhode-Island, and around Bermudas.

"It is possible that there may have been a publication on this important fishery in some part of the United States. Although they are very successful rivals of the English in the business, I know of no publication on the subject in the imperial library of Paris.

"I should wish the details of the whale fishery, to the north and the south; on the number of vessels equipped for that employ since 1783, and of the number of seamen engaged.

"Of late years, the Americans, in imitation of the English, have betaken themselves to the fishing, or rather hunting of Seals (*Phocæ*) in the Southern Seas; and that very

successfully. I have no doubt that much information exists in America on this occupation; on the several species of Seals which are killed, and on the trade in their oil and skins, particularly in China. I am uninformed whether the relations of the voyagers are printed. I nevertheless presume that it is easy to procure them at New-York. I am persuaded you will find no difficulty in collecting the general intelligence relating to this important concern.

“The Cod-fishery seems to have obtained a no less remarkable increase in the states of Massachusetts and Rhode-Island. And the like probably takes place in regard to catching Mackarel and Herring.

“On the last of these articles I possess nothing more than the memoir of Mr. Gilpin. But I wish to know the ports in which vessels are fitted out for taking those fish, and the amount of the proceeds. I presume that of the Mackarel is not so considerable; but I wish, notwithstanding, to possess the like information as in the case of the Herring-fishery, in the North-American ports.

“As to the Cod-fishery, I would have you to understand, that I should prize very highly a well-written essay on its progress and condition in the United States; and, if possible to procure the facts, on the commerce in fish from the New England States and Newfoundland.”

We understand an important body of information on the fisheries of the United States has been transmitted to Mr. Moriniere.

When it is considered that this inquiry was sanctioned by Count DECRES, Minister of the Marine and of the Colonies, and Dukes CADORE and BASSANO, the Secretaries of State for the Foreign Department, it will readily appear that our fisheries excite no small curiosity abroad. And this consideration ought to invite toward them a greater share of attention at home.

Contrast between Niagara River and the Thracian Bosphorus.

In our volume xiii. page 404—6, we stated the reasons for believing that the Great Lakes of North-America had been originally reservoirs of salt water, which had gradually

run out, and been succeeded by *fresh* water, in consequence of the several falls and rapids rendering it impossible for the departed water to flow back. The *Caspian*, *Aral*, and *Dead Seas*, which are collections of salt water, without outlets, were there considered; as were also the *Euxine*, *Mediterranean*, and *Mexican*, which have burst their barriers.

A doubt, nevertheless, remained concerning the *Euxine*, which we are now enabled to supply. This related to the Strait of Constantinople, through which it was alleged, by some geographers, that a current constantly sets from the Black Sea, south westwardly towards the *Ægean*. If this was a fact, the Black Sea ought, ages ago, to have been converted into a *fresh* lake: whereas Mr. Le Sage states, in his very instructive maps, that the water is somewhat brackish, or of inferior saltness; and Dr. Clarke relates, in his travels, that great quantities of salt are prepared from its waters in the Crimea.

The difficulty has, however, been removed by Dr. INGIGIAN, who has published a very able and perspicuous discussion of the subject; in the course of which he affirms that there is a reflux current from the Sea of Marmora into the *Euxine*.

In Agasse's *Moniteur Universel* of August 12, 1813, is contained a review of INGIGIAN's description of the Bosphorus of Thrace. The author is a member of the learned and respectable academy of Armenians, at Venice. The public is indebted to F. Martin for the version from Armenian into French. Among many other opinions stated by Dr. Ingigian concerning this famous passage, otherwise called the Canal of Constantinople, is the one of the water-level having been formerly much higher than it is at present. He then proceeds to discourse of currents, upon which the reviewer expresses himself thus: "The Bosphorus furnishes another subject of observation and discussion among the learned; I mean relative to its three principal motions, or currents of water, in opposition to each other: the first from the Black Sea to the Sea of Marmora; the second from the Sea of Marmora to the Black Sea, directly opposite the first; and the third, which has a direction different from the other two, and this occurs not at the surface, but at a certain depth. The ancients had ascribed this phenomenon to the difference of heights in the bed of the Mediterranean Seas, and to the whirling of the waters, produced by the different ob-

stacles which they encounter in their course. To these the moderns have added the influence of the winds, and even that of the moon; but on the subject of this we shall confess, with Dr. Ingigian, and in concert with Procopius, that every person may think and speak as he pleases."

Thus the Euxine receives supplies of salt-water from the Mediterranean, as occasion may require. In theorizing upon its saltness we may say, that it is less salt than it originally was, and will, by degrees, become yet fresher; until possibly, in a long course of ages, the Black Sea may grow as fresh as Lake Superior.

Valuable Additions to the Library of the New-York Hospital.

There has been several important additions lately made to the library of the New-York Hospital. These consist chiefly of books on medicine and natural history; and more especially on zoology. This collection now contains the splendid volumes of Catesby, Edwards, Merian, and Wilson; and the important publications of Ellis, Donovan, La Cépède, Pennant, Linnæus, Da Costa, Turton, Bomare, Cuvier, Dameril, Buffon, and Shaw. Among them is a copy of Monro's great work on the structure and physiology of fishes.

The hospital-library was uncommonly rich in *botanical* books before. It now is almost as well supplied with publications on the *History of Animals*. And the most important additions may be expected that circumstances will admit, from the disposition of the governors of that well-administered corporation, to favour the progress of science.

Dr. Ennals Martin, of Easton, is the author of a work published in Baltimore, on the American Epidemics of 1813 and 1814, as they prevailed on the eastern shore of Maryland.

He has satisfied himself, in the course of the discussion, that many of the current notions about contagion and infection, are idle and unfounded; and that the facts he has stated are wholly subversive of that miserable hypothesis in the popular febrile diseases of North-America. His motto in this work is, "I do not contend for my own opinion, but for reason, or what carries the appearance of it."

The society of Gentlemen, who, since 1810, conducted the periodical work published in New-York, under the title of the American Medical and Philosophical Register, have suspended their labours on the completion of their fourth volume.

The discoveries in mineralogy and geology have been sufficient to enable its editor, Dr. Bruce, to complete the first volume of his American Mineralogical Journal. We understand that the indefatigable publisher is making progress in his favourite science; and that he has another number in the press. The geological features of our country (such as we could wish WERNER himself present to examine); its marles; its gypsums; its salt-springs; its lime-stones, and marbles; its animal relics of fishes, mammoths, ferns, and many other organized beings; its caverns; and its peculiar fossils, are great themes of inquiry, and they afford employment for many and able writers.

*Learned Societies.**Western Pennsylvania Medical Society.*

The constitution and laws of the Western Medical Society, which holds its meeting at Washington (Pennsylvania) were agreed to, in July, 1813. Their object expressed, is mutual improvement in the science of medicine and the promotion and diffusion of medical knowledge. We learn that regular meetings are held, and that a number of dissertations and essays have been read on medicine and other branches of Natural History.

Society for Literary and Scientific Improvement in Ohio.

The progress of our western brethren in useful knowledge has been repeatedly acknowledged by us with sentiments of respect, mingled with pleasure. An address was delivered to the school of Literature and the Arts, by Dr. Drake we believe, on the twenty-third of November, 1814, in which many interesting topics have already fixed the attention and diligent industry of that institution.

The author has indulged a spirited strain of expression on the advantages which may be expected to result from a perfect acquaintance with the natural history of our country, heretofore so much neglected by its inhabitants. We hope, at a future time, to be enabled to gratify our readers with the respectable productions of the western section of the confederate states.

During the winter of 1814, a literary and philosophical society was established in the city of New-York. It has since been incorporated. And on the fourth of May, the day on which they received their charter, an introductory discourse was delivered by the President, De Witt Clinton, L. L. D. &c. This elaborate and appropriate exercise was highly honourable to the learned author, and eminently worthy of the solemn occasion. A copy was requested for publication.

At subsequent meetings of this respectable association, a number of valuable memoirs have been read, and referred to the board of counsellors for consideration.

A volume of the society's transactions is now in the press. It will contain, it is believed, in addition to the act of incorporation, the by-laws, and Dr. Clinton's address, the principal communications that have been made during the sittings, by the members themselves, and their correspondents. Some of them are said to be papers of great ingenuity and research. They will be printed in volumes, and, coming from the press of Van Winkle and Wiley, accuracy and neatness are anticipated.

END OF VOLUME XVIII. AND SECOND OF NEW SERIES.

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